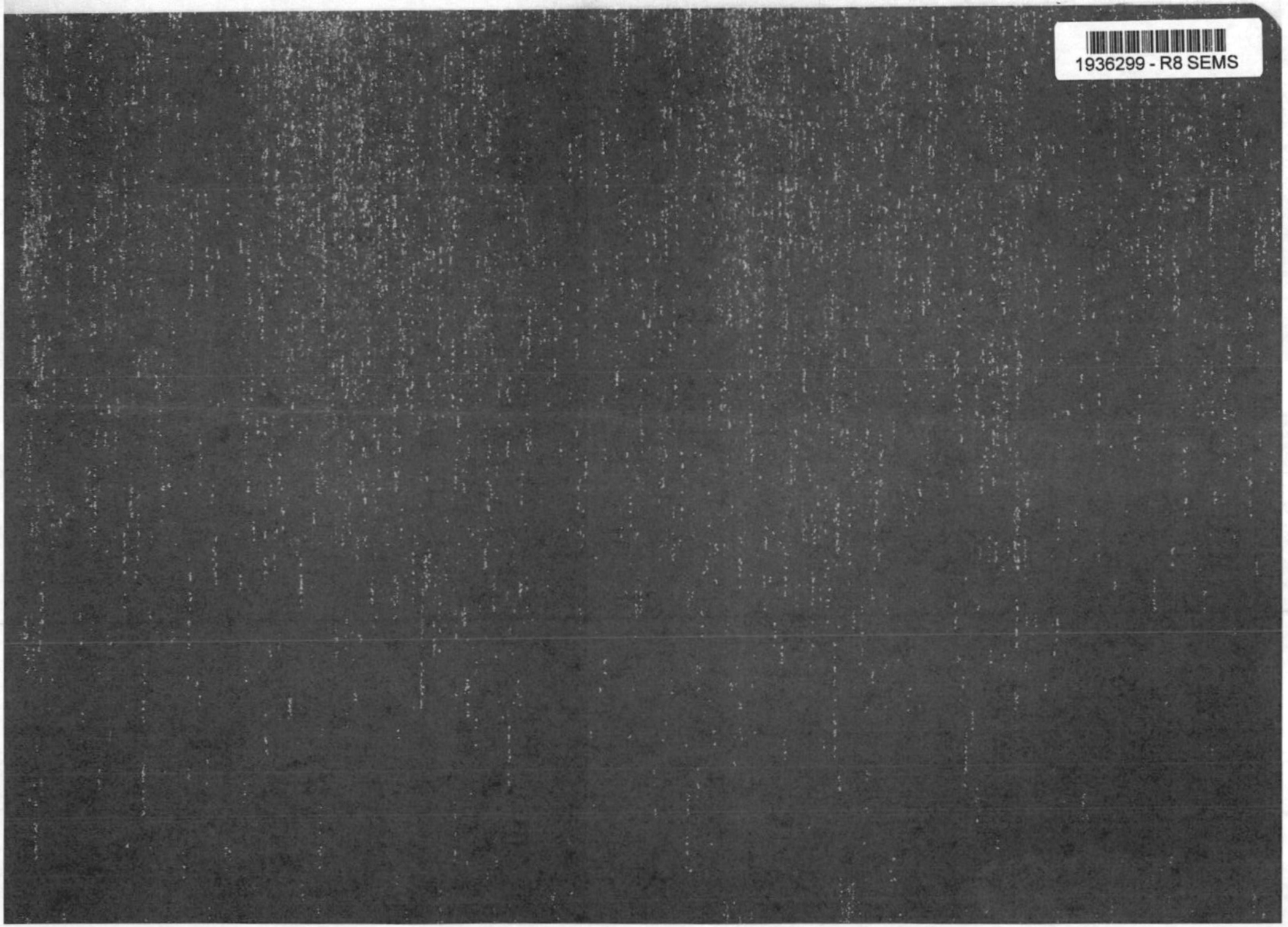

SUMMARY REPORT
GILT EDGE EXPLORATION PROJECT
1979 PROGRAM

by

Terry C. Windisch & Peter E. Chapman

March, 1980

SUMMARY REPORT

GILT EDGE EXPLORATION PROJECT
1979 PROGRAM

GILT EDGE PROPERTY
LAWRENCE COUNTY, SOUTH DAKOTA

by

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March, 1980

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*E	GEOLOGICAL LOGS FOR CYPRUS ROTARY DRILL HOLES 79-GLE-125 THROUGH 79-GLE-188

* Appendices D and E are contained in a separate volume accompanying this report.

INTRODUCTION AND SUMMARY

The Gilt Edge deposit is located in Lawrence County, South Dakota, near the northern end of the Black Hills at an average elevation of 5,500 feet. Lead and the Homestake gold mine are about 5 miles to the northwest. The area can be reached by 4.5 miles of improved county road from U.S. Highway 385.

The Gilt Edge property includes 95 patented and 17 unpatented lode claims and one patented placer claim covering about 820 acres of land. The claims are all held under a Cyprus/Congdon and Carey purchase option and lease-purchase agreement. Surrounding property is controlled by the Commonwealth Mining Company and numerous individual claim holders, some of whom have indicated a willingness to lease their claims to Cyprus. The property is within the Black Hills National Forest, and the unpatented land thus falls under the jurisdiction of the U.S. Forest Service, Department of Agriculture.

Cyprus drilled 64 rotary holes in 1979 totalling 16,030 feet. This brings the Cyprus drilling total to 188 rotary holes and 7 diamond drill core holes with a combined length of 48,533 feet. An additional 10,265 feet of diamond drilling was previously completed by Congdon and Carey in 1968 and 1969. Total expenditures charged to the project through 1979 amount to $774,655, of which Congdon and Carey contributed $97,513, Azcon contributed $99,854, and Cyprus contributed $577,288.

Cyprus's exploration activities at Gilt Edge were initiated in 1974 by Peter E. Chapman, who has supervised the project intermittently ever since. Gold and minor amounts of silver occur with pyrite in erratic concentrations within shear and breccia zones in close proximity to Tertiary trachyte porphyry intrusive bodies. Better grade gold mineralization tends to be localized near intersections of northeast trending shear zones and zones of brecciation. Preliminary petrographic studies indicate that a large portion of the gold occurs as micron-sized disseminations in pyrite, and that coarser gold is contained in the oxidized material. The apparent genetic association of the Gilt Edge gold mineralization with Tertiary intrusive rocks markedly contrasts with the nearby Homestake gold occurrence which is confined in large part to the cummingtonite schist of the Precambrian Homestake Formation.

Updated ore reserve calculations completed in early 1980 for the property indicate 10.0 million tons of proven and probable ore averaging .050 oz/ton gold at a .020 oz/ton cutoff grade and a 75-foot area of influence around individual holes. Drilling and past mining operations indicate that there is good potential to increase the presently known tonnage with depth.

Preliminary bottle roll cyanide tests and bench scale column leach tests indicate 77.5% to 87.9% recoveries for oxidized Dakota Maid ore material, 93.0% to 77.5% recoveries for partially oxidized Sunday ore material, and 65.8% to 54.8% recoveries for unoxidized Dakota Maid ore material. Considerable metallurgical testing was carried out in 1979, but results are not available at this time.

Recommended additional geologic work includes detailed mapping to better define the gold-bearing shear and breccia zones, drilling of outlying geochemical anomalies, and continuation of the geochemical sampling program north of the study area.

A survey by Schwendinger Associates indicates that most environmental and permit requirements for an open pit mine and mill at Gilt Edge are reasonable, although permits for hazardous waste disposal and "excessive" widening of roads might be difficult to obtain. Environmentally concerned groups and individuals could cause problems but are presently balanced by the community's pro-mining attitude and concern for jobs. The process of acquiring all the necessary permits for mining at Gilt Edge does not appear to be prohibitively difficult.

RECOMMENDATIONS

Based on the results of the 1979 exploration program, the following work is recommended:

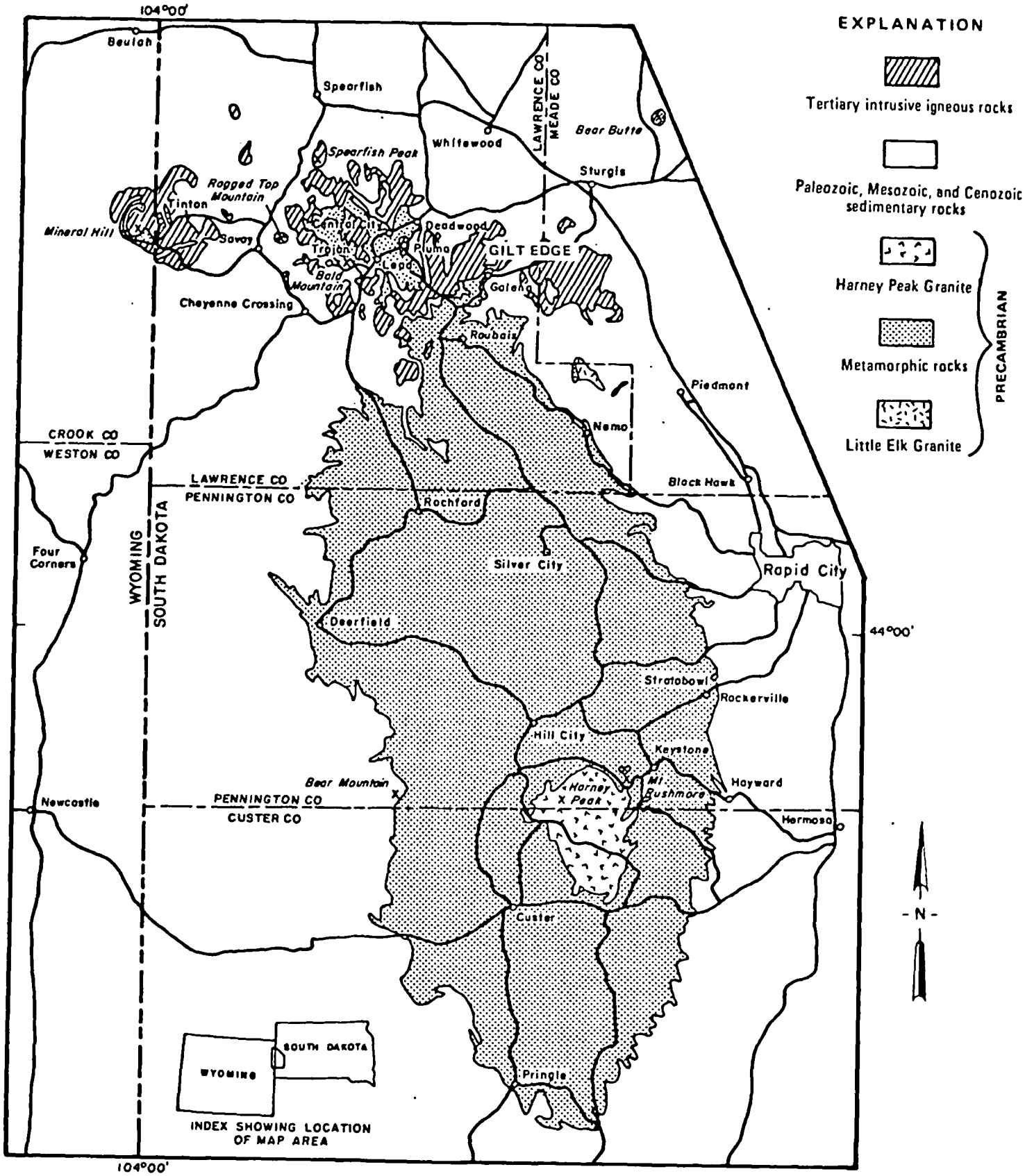
1. A modest program of fill-in drilling of the existing drill pattern, which includes deepening a selected group of old, shallow holes.
2. Detailed geologic mapping to better define the ore controls and assist the metallurgical engineering group.
3. A survey of key portions of the patented claim group to determine possible fractions or discrepencies.
4. Resurvey the entire drill grid to improve the drill hole location engineering data.
5. Acquisition and drilling of the geologically favorable Ray Coppo-Crown Point land to the south of the Sunday Pit.
6. A computerized ore reserve estimate utilizing both the new air photography as a topographic base and the proposed drill hole survey data.

LOCATION AND ACCESSIBILITY

The Gilt Edge gold deposit is located in the thickly forested rolling mountainous terrain near the northern end of the Black Hills, Lawrence County, South Dakota (Figure 1). The property is approximately five miles southeast of Lead and the Homestake mine. Access is via 4.5 miles of improved county gravel roads from U.S. Highway 385. Rapid City, a major population and supply center, is located approximately 40 miles to the southeast. The property is within the Black Hills National Forest and the surrounding unpatented land falls under the jurisdiction of the U.S. Forest Service, Department of Agriculture.

Power should be readily available to the property. Three major transmission lines owned by the Black Hills Power Company now cross the property.

An average precipitation of 26 inches falls mainly as spring rain. Snow cover is moderate, and it lasts usually until the end of March.



Base compiled from U.S. Geological Survey and State Highway Maps

Map from Norton, James J. (1974), U.S. Geological Circular 699

Geology compiled from Darton and Paige(1925), Darton(1905), Bayley(1972), and from mapping by J.A. Redden, J.J. Norton, J.C. Ratte, and P.H. Rahn from 1948-73

Figure 1 Generalized geologic map of the Black Hills of western South Dakota and adjacent parts of Wyoming.

LAND STATUS

The current Gilt Edge property package includes 95 patented lode claims, 1 patented placer claim, and 17 unpatented lode claims, which cover a total area of approximately 820 acres of land, shown on the attached Claim Map Plate 1. The claims are all held under a lease-purchase or purchase option by Cyprus/Congdon and Carey by three separate contracts.

It is recommended that the 1980 program include the drill testing of the Crown Point zone (owned by Ray Coppo of Galena, South Dakota). If this drilling program is to be completed during the 1980 field season, negotiations with Coppo to obtain this property should be started immediately.

A new base map of patented and unpatented claims held by Cyprus at Gilt Edge is being constructed by Walt Billings with land information from the BLM regional office. This work should greatly aid the comprehensive title search and land survey (using a licensed mineral surveyor) planned for the 1980 program.

A land status map is attached which includes the Cyprus/ Congdon and Carey position and adjacent property owned or leased by various parties. These adjacent properties should be examined carefully to determine if they will be required for mining, hauling, dumping, or heap leaching purposes.

GEOLOGY AND MINERALIZATION

The Gilt Edge Project is located along the northwest flank of the Black Hills uplift within an assemblage of early Tertiary shallow felsic to intermediate intrusives. Several emplacements of progressively more felsic dikes, ending with northeast trending rhyolitic dikes, followed the earliest intrusive phase. Gold mineralization seems to be genetically associated with the emplacement of the trachyte and rhyolite dikes. Two stages of brecciation form zones from a few tens of feet wide to several hundred feet wide, with fragments of all rock types recognized in the district in a matrix of pyrite, hematite clay, and siliceous material. The earlier stage of brecciation trends north-northwest. The later north-northeast stage is subparallel with the northeast trending rhyolite porphyry dikes and may be genetically related. North-northeast trending shear zones also occur in the vicinity of dike and breccia concentrations. Early mining efforts, including the Dakota Maid and Sunday operations, were centered on these mineralized shear zones.

Gold and minor amounts of silver associated with pyrite occur as erratic concentrations in shear and breccia zones and disseminated in the adjacent altered rocks. Preliminary petrographic studies indicate that gold occurs as 1 to 15 micron particles finely disseminated in pyrite (Battelle Institute, 1955). In the field, it is noticed that gold

occurs within or near major zones of brecciation and in the vicinity of sills and dikes of felsic intrusive rock. It also tends to be locallized near intersections of north-northeast trending shear zones with breccia zones.

A more complete discussion of geology and mineralization may be found in the 1979 Gilt Edge Geological Summary Report by Chapman and Schmidt.

1979 DRILLING PROGRAM

During the 1979 field season, 64 rotary holes with a combined footage of 16,030 feet were completed (see Drill Hole Location Map Plate 3). Many of the 1979 holes were located in areas that should ultimately fall within a proposed pit or pits in order to improve the ore to stripping ratio. A lesser percentage of the 1979 holes were targeted at filling in or internal checking of the known mineralization.

The assays and geologic logs of the 1979 drilling program are attached in the appendix. Results of this program indicated a general decline of mineralization on the periphery of the previously drill tested areas, with generally short and erratic intercepts of gold mineralization.

As indicated in previous reports, the gold mineralization appears to be controlled by nearly vertical structures. The best areas for increasing the minable tonnages at Gilt Edge are beneath the present Sunday and Dakota Maid zones. With the improving economics of gold, deepening of the shallow holes in both the Dakota Maid and Sunday zones appears warrented.

It is recommended that a modest rotary drilling program which includes filling in of the current pattern and extending the depth of a selected group of old, shallow holes be initiated during the 1980 season.

ORE RESERVE ESTIMATES

Review

Ore reserve estimates for the Gilt Edge area from 1975 through 1977 increased from 7.1 million tons to 9.2 million tons, using the cross section method of ore calculation, .020 oz/ton gold cutoff, and 100-foot maximum projection of ore intercepts. Grade varied from .043 oz/ton gold to .054 oz/ton gold. Earlier calculations used data from 42 Cyprus rotary drill holes and 6 Congdon and Carey diamond drill core holes. Additional drilling of 58 rotary holes and 18 diamond drill core holes made 118 holes available for use in calculations by the end of 1977. Stripping ratios of 1.29 to 1 and 1.4 to 1 were estimated by different geologists in 1976 and have not been updated.

Cyprus drilled 24 shallow rotary holes in 1978, increasing the total number of holes to 142. In early 1979, P.E. Chapman revised previous ore reserve estimates using both the polygon and cross section methods. For the polygon method, a 75-foot cutoff grade and a tonnage factor of 12.5 cubic ft/ton were used. The cross section method used a 100-foot maximum ore intercept projection with the same cutoff grade and tonnage factor as previously used.

The polygon method of calculation indicated a total of 8.9 million tons averaging .050 oz/ton gold. The cross section method produced 10.3 million tons of .050 oz/ton gold.

Several outlying holes with significant gold mineralization were not considered, pending additional drilling.

1980 Ore Reserve Calculations

An additional 64 rotary holes from 40 to 350 feet deep, drilled in 1979, were used by T.C. Windisch in early 1980 to update the preceding ore reserve estimate. The Dakota Maid and Sunday areas, previously considered separately, were combined in all drawings and calculations. Both polygon and cross section methods were used with the same parameters as in the early 1979 work.

In the polygon method, new holes were plotted on the map, areas of influence of pre-existing adjacent holes altered, and new and altered hole areas planimetered. A factor of 2500 converted square inches into square feet at the map scale (1" = 50'). The tonnage of each hole was calculated by the formula:

in^2 x 2500 x total ore interval ÷ 12.5 cubic ft/ton = tons.

The tonnage multiplied by the average grade for the hole produced a weighted average, later used in calculating average grade for the entire area.

Sixteen sections of the Gilt Edge area, trending N 50 W and 100 feet apart, were used for the cross section method. New holes and ore intercepts were plotted and projected ore intercepts for previous holes altered where necessary. A weighted average was made of the grade of mutual areas of

influence for vertical holes and angle holes which crossed or occupied the same area on the cross section. Ore intercept areas were planimetered and tonnage for each hole calculated by the formula:

in^2 x 2500 x 100 ft (area of influence) ÷ 12.5 cu ft/ton = tons

Weighted averages for each hole and grade and tonnage of the deposit were calculated as in the polygon method.

Results of the 1980 ore reserve calculations are as follows:

Polygon method (75' area of influence) -
10.0 million tons @ .050 oz/ton Au

Cross section method (100' area of influence) -
11.4 million tons @ .049 oz/ton Au

All ore reserve estimates to date are summarized in table 1.

Table 1

REVIEW - ORE RESERVE CALCULATIONS
Gilt Edge Project

Date	Company	Mineable or Proven (tons)	Category Proven + Geologic (tons)	oz/ton Au Cutoff	oz/ton Au Grade	Waste to Ore Stripping Ratio
1975	Cyprus (C. B. Hutchens)		7,444,350	0.02	.054	N.D.
1976	Azcon (W. F. Lindquist)		7,115,688	0.02	.043	1.4:1
1976	Cyprus (B. Goddard)	8,643,967		0.02	.048	1.29:1
1977	Cyprus (L. McIntosh)		9,223,775	0.02	.052	N.D.
1979	Cyprus (P. Chapman)		10,287,000	0.02	.050	N.D.
1980	Cyprus (T. Windisch)		11,448,200	0.02	.049	N.D.

METALLURGICAL TESTING

Review

Tailings assays and mill head assays from the original cyanide mill on the Gilt Edge property indicated gold recoveries from 75 to 85% from 1937 to 1941. About half the ore was from 4 small open pits and half was from underground workings. The Battelle Memorial Institute of Columbus, Ohio examined the mill tailings in 1954 and 1955, concluding that reworking the old tailings would not be profitable at that time.

From 1976 through 1978 ore has been tested by the Colorado School of Mines Research Laboratory, the Cyprus Research Laboratory, and the Miller-Kappes Company of Reno, Nevada. Different testing methods were used, but results seem to indicate that recovery improves with finer crushing and agitation of the sample during extraction. Metallurgical testing methods and results are summarized in table 2.

1979 Metallurgical Testing

Metallurgical work on the Gilt Edge property in 1978 and 1979 was carried out by Daniel Kappes of the Miller-Kappes Company. Work consisted of bucket leach tests on samples from exposed walls of old workings, cyanide bottle roll tests of rotary drill hole cuttings, and bucket leach tests of fresh underground rock. Recovery from 7 bucket leach tests of exposed wall rock, continued from 1978, ranged from 17% to

75%. Low recovery was often from the -65 mesh fraction rather than the coarser material.

Twenty-four hour cyanide bottle roll tests on 200 rotary drill hole samples extracted an average of approximately 85% of the total gold. Zones of low recovery are occasionally found, but present data is insufficient to evaluate their significance. Bucket leach tests of 21 fresh underground samples, crushed to 5/8 inch and 2 inch sizes, have been started but results are not yet available. If good recovery is obtained from the 2 inch size samples, then an additional series of bucket leach tests is planned on a 4 to 8 inch size fraction of the same samples.

Preliminary results from the 1979 testing program have emphasized the need for detailed geologic mapping at Gilt Edge to determine the sizes, configuration, composition, and alteration of the various mineralized zones. A substantial metallurgical testing program is planned for 1980.

Table 2

Review - Metallurgical Testing
Gilt Edge Project

Date	Company	Sample Type	Sample Size	Testing Method	% Extraction
1976	Colorado School of Mines Research Lab	Rotary Drill Cuttings:		Bottle Roll Cyanide	
		Dakota Maid Oxidized			77.5
		Dakota Maid Unoxidized			65.8
		Sunday			93.0
1976	Cyprus Research Co. (P. Colville)	Rotary Drill Cuttings:		Direct Cyanidation	
		Oxidized Uncrushed			+80
		Unoxidized Uncrushed			17
		Unoxidized Crushed	-100 mesh		60
		Floatation Concentrates	-100 mesh		72
1977	Cyprus Research Co. (P. Colville)	Bulk Core:		Bench Scale Column Leach	
		Dakota Maid Oxidized	-1/4 inch		87.9
		Dakota Maid Unoxidized	-1/4 inch		54.8
		Sunday Partially Oxidized	-1/4 inch		77.5
1978	Miller-Kappes Co. (D. Kappes)	Various Bucket Samples	"coarse"	Bench Scale Column Leach	17 to 76
1979	Miller-Kappes Co. (D. Kappes)	Rotary Drill Hole Cuttings		Bottle Roll Cyanide	85

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Heavy yellow stock

APPENDIX A

Tabulation of Ore Blocks

Polygon Method

GILT EDGE PROJECT
Lawrence County, South Dakota

Ore Calculations - Polygon Method

75' area of influence .020 oz/ton Au cutoff
12.5 cubic feet per ton in^2 to ft^2 factor 2500

Diamond Drill Hole #	Square Inch	Oz/Ton Au	Interval	Tons
DDH-7	6.12	.070	80	97,920
DDH-10	5.61	.059	40	44,880
DDH-11	2.88	.037	70	40,320
DDH-15	5.38	.055	90	94,320
DDH-16	5.93	.044	135	160,110
DDH-17	4.88	.037	152	148,352

Rotary Drill Hole #	Square Inch	Oz/Ton Au	Interval	Tons
RDH-1	4.03	.078	200	161,200
RDH-2	5.04	.067	200	201,600
RDH-3	5.37	.038	250	268,500
RDH-4	4.35	.048	210	182,700
RDH-5	3.28	.022	70	45,920
RDH-6	1.79	.051	210	75,180
RDH-7	4.15	.036	170	141,100
RDH-8	4.35	.109	150	130,500
RDH-10	4.05	.027	50	40,500
RDH-11	3.20	.025	100	64,000
RDH-12	4.73	.040	200	189,200
RDH-13	4.83	.041	175	169,050
RDH-14	3.48	.032	120	83,520
RDH-15	3.85	.043	100	77,000
RDH-16	3.73	.053	140	104,440
RDH-19	5.44	.039	50	54,400
RDH-20	3.10	.038	170	105,400
RDH-21	4.68	.133	100	93,600
RDH-22	3.57	.027	110	78,540
RDH-23	3.28	.042	125	82,000
RDH-24	4.03	.050	140	112,840
RDH-25	2.88	.066	168	96,768
RDH-26	4.02	.029	60	48,240
RDH-27	4.36	.062	110	95,920
RDH-28	3.83	.024	50	38,300
RDH-29	4.36	.059	30	26,160
RDH-30	5.21	.029	30	31,260
RDH-34	4.17	.024	50	41,700

Gilt Edge Project
Ore Calculations
Polygon Method
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Rotary Drill Hole #	Square Inch	Oz/Ton Au	Interval	Tons
RDH-35	3.52	.023	40	28,160
RDH-36	1.75	.028	20	7,000
RDH-37	1.76	.033	15	5,280
RDH-38	3.81	.024	30	22,860
RDH-39	4.77	.031	150	143,100
RDH-40	3.46	.049	70	48,440
RDH-41	2.41	.024	40	19,280
RDH-42	3.92	.029	210	164,640
RDH-44	2.74	.086	70	38,360
RDH-45	3.98	.027	80	63,680
RDH-46	4.78	.220	200	191,200
RDH-47	3.19	.077	180	114,840
RDH-48	4.08	.043	70	57,120
RDH-49	4.16	.025	20	16,640
RDH-50	4.58	.028	10	9,160
RDH-52	4.35	.052	65	56,550
RDH-54	3.47	.059	20	13,880
RDH-55	2.28	.032	50	22,800
RDH-56	2.86	.058	230	131,560
RDH-57	3.42	.045	110	75,240
RDH-58	3.70	.037	180	133,200
RDH-59	4.27	.040	160	136,640
RDH-60	5.74	.026	130	149,240
RDH-61	5.09	.025	40	40,720
RDH-62	3.79	.100	210	159,180
RDH-63	5.40	.020	20	21,600
RDH-64	3.99	.036	290	231,420
RDH-65	4.23	.025	100	84,600
RDH-66	4.47	.027	110	98,340
RDH-67	3.07	.038	110	67,540
RDH-68	5.08	.050	50	50,800
RDH-69	3.46	.056	90	62,280
RDH-70	5.60	.026	100	112,000
RDH-71	3.46	.036	180	124,560
RDH-72	4.47	.121	90	80,460
RDH-74	4.02	.043	60	48,240
RDH-75	5.03	.047	40	40,240
RDH-76	4.14	.031	180	149,040
RDH-78	3.82	.025	80	61,120
RDH-79	3.28	.028	20	13,120

Gilt Edge Project
Ore Calculations
Polygon Method
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Rotary Drill Hole #	Square Inch	Oz/Ton Au	Interval	Tons
RDH-80	3.09	.033	110	67,980
RDH-81	4.19	.025	90	75,420
RDH-82	5.04	.039	40	40,320
RDH-83	3.61	.037	50	36,100
RDH-85	5.73	.023	30	34,380
RDH-86	4.14	.045	10	8,280
RDH-87	3.95	.070	90	71,100
RDH-98	4.88	.029	110	107,360
RDH-99	5.38	.028	50	53,800
RDH-102	4.11	.020	60	49,320
RDH-103	2.47	.031	60	29,640
RDH-104	3.80	.033	35	27,090
RDH-105	4.01	.031	150	117,600
RDH-106	4.23	.039	120	101,520
RDH-107	2.77	.091	80	44,320
RDH-109	3.22	.083	20	12,880
RDH-110	3.75	.092	60	45,000
RDH-112	4.10	.049	40	32,800
RDH-113	6.49	.023	20	25,960
RDH-115	2.88	.020	10	5,760
RDH-116	3.22	.056	70	45,080
RDH-117	3.38	.022	20	13,520
RDH-121	3.92	.050	60	47,040
RDH-123	3.02	.056	90	54,360
RDH-124	4.83	.036	200	193,200
GLE-126	5.48	.029	40	43,840
GLE-127	4.81	.023	30	28,860
GLE-128	5.12	.056	40	40,960
GLE-129	5.77	.051	10	11,540
GLE-130	4.58	.020	10	9,160
GLE-131	5.12	.031	60	61,440
GLE-132	3.12	.035	10	6,240
GLE-133	3.87	.051	10	7,740
GLE-134	3.27	.022	10	6,540
GLE-137	3.43	.041	60	41,160
GLE-138	5.65	.029	10	11,300
GLE-139	5.32	.021	10	10,640
GLE-140	6.00	.028	50	60,000
GLE-141	3.01	.053	90	54,180
GLE-142	3.31	.023	10	6,620
GLE-143	3.93	.026	10	7,860

Gilt Edge Project
Ore Calculations
Polygon Method
Page 4

Rotary Drill Hole #	Square Inch	Oz/Ton Au	Interval	Tons
GLE-144	4.35	.025	60	52,200
GLE-145	2.86	.052	160	91,520
GLE-148	2.77	.023	20	11,080
GLE-149	3.55	.030	10	7,100
GLE-151	3.26	.054	50	32,600
GLE-152	2.88	.157	80	46,080
GLE-153	3.42	.075	40	27,360
GLE-154	5.27	.020	20	21,080
GLE-155	4.66	.033	10	9,320
GLE-156	3.68	.034	60	44,160
GLE-157	3.38	.030	100	67,600
GLE-158	4.20	.036	10	8,400
GLE-159	4.75	.037	120	114,000
GLE-160	5.02	.033	20	20,080
GLE-161	5.24	.058	10	10,480
GLE-162	3.00	.043	310	186,000
GLE-163	5.35	.076	70	74,900
GLE-164	4.48	.029	50	44,800
GLE-165	5.06	.046	30	30,360
GLE-166	3.07	.107	110	67,540
GLE-167	5.04	.031	20	20,160
GLE-168	2.99	.039	110	65,780
GLE-169	5.25	.028	60	63,000
GLE-170	4.85	.070	210	203,700
GLE-171	5.63	.038	50	56,300
GLE-172	4.54	.020	10	9,080
GLE-173	5.12	.053	30	30,720
GLE-175	5.92	.034	50	59,200
GLE-177	4.47	.043	50	44,700
GLE-178	4.19	.028	40	33,520
GLE-179	3.07	.045	140	85,960
GLE-181	5.86	.036	90	105,480
GLE-183	5.53	.042	20	22,120
GLE-185	3.36	.042	10	6,720
GLE-186	6.72	.032	10	13,440
GLE-187	5.45	.022	10	10,900
GLE-188	4.81	.022	30	28,860
Total 152		.050		10,029,780

Heavy yellow stock

APPENDIX B

Tabulation of Ore Blocks

Cross Section Method

GILT EDGE PROJECT
Lawrence County, South Dakota

Ore Calculations - Cross Section Method

100' area of influence .020 Oz/ton Au cutoff
12.5 cubic feet per ton in^2 to ft^2 factor 2500

Cross Section 13

	Block No.	Square Inch	Oz/Ton Au	Tons
	A	1.56	.050	31,200
Total	1		.050	31,200

Gilt Edge Project
Ore Calculations
Cross Section Method
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Cross Section 14

	Block No.	Square Inch	Oz/Ton Au	Tons
	A	1.83	.062	36,600
	B	0.59	.020	11,800
	C	0.75	.023	15,000
	D	0.55	.029	11,000
Total	4		.043	74,400

Cross Section 15

Block No.	Square Inch	Oz/Ton Au	Tons
A	0.50	.042	10,000
B	0.97	.036	19,400
C	0.28	.106	5,000
D	1.35	.031	27,000
E	2.40	.080	48,000
F	0.82	.127	16,400
G	0.45	.039	9,000
H	0.89	.052	17,800
I	0.39	.150	7,800
J	1.09	.028	21,800
K	1.01	.080	20,200
L	0.49	.085	9,800
M	0.57	.055	11,400
N	0.99	.168	19,800
Total 14		.073	243,400

Cross Section 16

Block No.	Square Inch	Oz/Ton Au	Tons
A	1.62	.022	32,400
B	1.33	.042	26,600
C	1.15	.022	23,000
D	2.40	.043	48,000
E	0.44	.023	8,800
F	5.16	.026	103,200
Total 6		.030	242,000

Cross Section 17

Block No.	Square Inch	Oz/Ton Au	Tons
A	6.02	.070	120,400
B	2.13	.020	42,600
C	0.47	.021	9,400
D	0.55	.025	11,000
E	0.56	.028	11,200
F	0.05	.037	1,000
G	0.22	.022	4,400
H	0.56	.024	11,200
I	0.85	.041	17,000
J	1.58	.030	31,600
K	0.41	.150	8,200
L	0.41	.041	8,200
M	1.66	.059	33,200
N	0.78	.020	15,600
O	1.46	.024	29,200
P	1.45	.025	29,000
Q	0.67	.028	13,400
R	0.65	.038	13,000
S	1.86	.027	37,200
T	0.74	.103	14,800
U	1.51	.029	30,200
V	1.49	.022	29,800
W	0.51	.029	10,200
X	0.55	.027	11,000
Y	1.68	.025	33,600
Z	0.53	.026	10,600
AA	0.70	.026	14,000
BB	0.68	.020	13,600
CC	1.32	.036	26,400
DD	0.65	.021	13,000
Total 30		.040	654,000

Cross Section 18

Block No.	Square Inch	Oz/Ton Au	Tons
A	0.54	.032	10,800
B	0.91	.028	18,200
C	1.44	.026	28,800
D	0.84	.020	16,800
E	0.68	.020	13,600
F	1.83	.042	36,600
G	0.38	.023	7,600
H	4.72	.025	94,400
I	0.68	.025	13,600
J	1.62	.023	32,400
K	1.90	.039	38,000
L	1.45	.021	29,000
M	2.22	.192	44,400
N	1.04	.052	20,800
O	3.39	.136	67,800
P	1.63	.057	32,600
Q	0.64	.021	12,800
R	3.51	.042	70,200
S	0.80	.028	16,000
T	11.21	.072	224,200
U	0.88	.025	17,600
V	0.78	.020	15,600
W	0.54	.030	10,800
X	2.42	.030	48,400
Y	0.63	.026	12,600
Z	4.29	.026	85,800
AA	1.44	.028	28,800
BB	1.78	.032	35,600
CC	1.51	.026	30,200
DD	0.89	.027	17,800
EE	0.86	.028	17,200
Total 31		.051	1,149,000

Cross Section 19

Block No.	Square Inch	Oz/Ton Au	Tons
A	3.82	.034	76,400
B	8.79	.041	175,800
C	1.92	.028	38,400
D	14.27	.038	285,400
E	7.93	.038	158,600
F	0.71	.028	14,200
G	0.76	.025	15,200
H	1.89	.026	37,800
I	0.70	.024	14,000
J	1.43	.036	28,600
K	7.93	.037	158,600
L	0.79	.128	15,800
M	0.85	.021	17,000
N	0.63	.039	12,600
O	1.39	.024	27,800
P	0.53	.028	10,600
Q	0.63	.030	12,600
R	1.29	.025	25,800
S	0.69	.026	13,800
Total 19		.037	1,139,000

Cross Section 20

Block No.	Square Inch	Oz/Ton Au	Tons
A	0.40	.030	8,000
B	0.40	.021	8,000
C	14.12	.036	282,400
D	7.80	.049	156,000
E	3.11	.035	66,200
F	3.03	.028	60,600
G	9.80	.058	196,000
H	0.71	.026	14,200
I	3.40	.028	68,000
J	0.57	.033	11,400
K	8.84	.036	176,800
L	0.51	.032	10,200
M	4.25	.030	85,000
N	0.55	.034	11,000
O	1.04	.022	20,800
P	0.50	.027	10,000
Q	0.44	.021	8,800
R	2.67	.028	53,400
S	1.10	.061	22,000
T	0.82	.020	16,400
U	0.82	.066	16,400
V	3.00	.028	60,000
W	0.40	.022	8,000
X	4.69	.040	93,800
Y	0.48	.025	9,600
Z	0.38	.041	7,600
AA	0.67	.025	13,400
BB	0.82	.024	16,400
CC	0.82	.026	16,400
Total 29		.038	1,526,800

Cross Section 21

Block No.	Square Inch	Oz/Ton Au	Tons
A	3.02	.025	60,400
B	0.64	.025	12,800
C	5.95	.040	119,000
D	3.08	.025	61,600
E	0.26	.027	5,200
F	9.44	.078	188,800
G	1.50	.042	30,000
H	0.57	.031	11,400
I	1.07	.024	21,400
J	2.57	.062	51,400
K	2.39	.128	47,800
L	0.93	.033	18,600
M	2.14	.049	42,800
N	0.65	.020	13,000
O	4.19	.036	83,800
P	1.00	.058	20,000
Q	2.03	.042	40,600
R	0.66	.061	13,200
S	2.82	.052	56,400
T	4.00	.043	80,000
U	7.21	.220	144,200
V	5.79	.033	115,800
W	2.06	.025	41,200
X	0.74	.022	14,800
Y	1.32	.023	26,400
Z	0.76	.039	15,200
Total 26		.066	1,335,800

Cross Section 22

Block No.	Square Inch	Oz/Ton Au	Tons
A	0.58	.036	11,600
B	6.43	.040	128,600
C	4.91	.073	98,200
D	3.77	.026	75,400
E	2.29	.023	45,800
F	3.04	.052	60,800
G	4.92	.066	98,400
H	3.19	.033	63,800
I	3.29	.260	65,800
J	0.52	.066	10,400
K	2.23	.046	44,600
L	0.64	.026	12,800
M	0.47	.037	9,400
N	0.28	.022	5,600
O	0.32	.034	6,400
P	5.13	.071	102,600
Q	3.14	.027	62,800
R	2.70	.032	54,000
S	6.22	.029	124,400
T	2.89	.041	57,800
U	0.60	.054	12,000
V	0.86	.023	17,200
W	0.68	.023	13,600
Total 23		.056	1,182,000

Cross Section 23

Block No.	Square Inch	Oz/Ton Au	Tons
A	0.72	.020	14,400
B	0.40	.020	8,000
C	0.32	.024	6,400
D	0.38	.063	7,600
E	0.55	.025	11,000
F	4.31	.025	86,200
G	4.41	.139	88,200
H	5.12	.058	102,400
I	2.28	.036	45,600
J	0.78	.037	15,600
K	0.71	.080	14,200
L	0.42	.026	8,400
M	0.51	.023	10,200
N	0.58	.020	11,600
O	2.02	.028	40,400
P	0.78	.020	15,600
Q	5.87	.046	117,400
R	0.62	.046	12,400
S	3.30	.026	60,000
T	0.75	.038	15,000
U	7.08	.123	41,600
V	0.60	.022	12,000
W	0.89	.082	17,800
X	0.89	.035	17,800
Total 24		.055	779,800

Cross Section 24

Block No.	Square Inch	Oz/Ton Au	Tons
A	2.13	.033	42,600
B	2.67	.045	53,400
C	7.11	.047	142,200
D	7.12	.040	142,200
E	2.39	.051	47,800
F	0.56	.020	11,200
G	0.45	.028	9,000
H	0.55	.050	11,000
I	1.62	.036	32,400
J	4.17	.055	83,400
K	0.61	.048	12,200
L	0.49	.020	9,800
M	0.53	.039	10,600
N	0.50	.029	10,000
O	4.36	.055	87,200
P	3.20	.133	64,000
Q	1.08	.029	21,600
R	2.47	.055	49,400
S	0.59	.056	11,800
T	3.66	.034	73,200
Total 20		.050	925,200

Gilt Edge Project
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Cross Section 25

Block No.	Square Inch	Oz/Ton Au	Tons
A	0.89	.020	17,800
B	0.62	.020	12,400
C	3.57	.034	71,400
D	2.15	.023	43,000
E	1.98	.022	39,600
F	1.01	.025	20,200
G	0.97	.021	19,400
H	0.50	.022	10,000
I	0.36	.023	7,200
J	1.64	.026	32,800
K	0.42	.020	8,400
L	1.45	.032	29,000
M	1.24	.024	24,800
N	1.39	.023	27,800
O	0.59	.021	11,800
P	6.82	.056	136,400
Q	0.34	.021	6,800
R	0.46	.020	9,200
S	3.57	.046	71,400
T	3.95	.133	79,000
U	1.82	.033	36,400
V	1.72	.060	34,400
W	0.57	.028	11,400
X	3.24	.084	64,800
Y	1.92	.053	38,400
Total 25		.049	863,800

Cross Section 26

Block No.	Square Inch	Oz/Ton Au	Tons
A	0.51	.020	10,200
B	1.17	.028	23,400
C	0.60	.035	12,000
D	3.14	.045	62,800
E	0.44	.133	8,800
F	1.40	.082	28,000
G	0.86	.029	17,200
H	0.47	.032	9,400
I	1.77	.041	35,400
J	0.75	.022	15,000
K	0.49	.035	9,800
L	0.39	.020	7,800
M	1.10	.083	22,000
N	6.78	.100	135,600
O	2.20	.051	44,000
P	1.50	.030	30,000
Q	2.56	.026	51,200
R	2.30	.042	46,000
S	0.54	.022	10,800
T	0.28	.048	5,600
U	0.81	.046	16,200
V	1.05	.027	21,000
W	0.67	.027	13,400
X	1.53	.048	30,600
Y	0.61	.041	12,200
Z	0.66	.022	13,200
AA	0.89	.028	17,800
BB	0.55	.049	11,000
CC	0.62	.021	12,400
DD	0.54	.039	10,800
EE	2.04	.045	40,800
FF	0.86	.030	17,200
GG	0.77	.026	15,400
Total 33		.051	817,000

Cross Section 27

Block No.	Square Inch	Oz/Ton Au	Tons
A	0.59	.044	11,800
B	0.59	.022	11,800
C	0.72	.045	14,400
D	0.72	.047	14,400
E	0.26	.036	5,200
F	0.26	.026	5,200
G	0 61	.039	12,200
H	1.88	.031	37,600
I	0.59	.041	11,800
J	0.48	.025	9,600
K	1.84	.030	36,800
L	0.66	.023	13,200
M	0.53	.073	10,600
N	0.33	.020	6,600
O	0.34	.030	6,800
P	3.13	.092	62,600
Q	0.75	.046	15,000
R	1.21	.021	24,200
S	1.21	.035	24,200
T	0.67	.023	13,400
U	0.70	.035	14,000
V	1.91	.064	38,200
W	0.25	.058	5,000
Total 23		.046	404,600

Cross Section 28

	Block No.	Square Inch	Oz/Ton Au	Tons
	A	1.65	.021	33,000
	B	0.82	.027	16,400
	C	0.44	.027	8,800
	D	0.55	.023	11,000
	E	0.55	.051	11,000
Total	5		.027	80,200

GILT EDGE PROJECT
Lawrence County, South Dakota

ORE CALCULATIONS - CROSS SECTION METHOD

100' area of influence .020 Oz/ton Au cutoff
12.5 cubic feet per ton in^2 to ft^2 factor 2500

SUMMARY

Cross Section No.	No. of Blocks	Oz/Ton Au	Tons
13	1	.050	31,200
14	4	.043	74,400
15	14	.073	243,400
16	6	.030	242,000
17	30	.040	654,000
18	31	.051	1,149,000
19	19	.037	1,139,000
20	29	.038	1,526,800
21	26	.065	1,335,800
22	23	.056	1,182,000
23	24	.055	779,800
24	20	.050	925,200
25	25	.049	863,800
26	33	.051	817,000
27	23	.046	404,600
28	5	.027	80,200
Total	313	.049	11,448,200

Heavy yellow stock

APPENDIX C

Schwendinger Associates, Inc. Report on
Environmental and Permit Requirements
for Gilt Edge Mine and Mill

Schwendinger Associates, Inc.

CONSULTANTS

3314 SOUTH ONEIDA WAY
DENVER, CO. 80224

(303) 758-6871

REPORT

TO: Alan A. Bakewell
Cyprus Mines Corporation

SUBJECT: Environmental/permit needs for mine/mill in S. Dak.

FROM: Richard B. Schwendinger

DATE: 12 February, 1980

SUMMARY. Permit requirements for a surface mine and mill in South Dakota do not appear to be too onerous. The reclamation permit guidelines seem reasonable, and air and water permits are standard. A hazardous waste permit is required for a mill and could be more difficult because regulations have not yet been fully written. The Forest Service would be concerned about 'excessive' widening of roads. The county is interested in jobs as long as impacts are mitigated. The local environmentalist organization, The Black Hills Alliance, presently is battling uranium mining; it is possible that they could turn their attention to mining in general. The environment of the area is fairly developed by most standards: the Black Hills is a major tourist attraction.

BACKGROUND

On 26 December, SCHWENDINGER ASSOCIATES, INC. was requested by Alan A. Bakewell of CYPRUS MINES CORPORATION to undertake a survey of the environmental/permits needs for a proposed surface mine and mill (gold) in the northern limits of the Black Hills of South Dakota, the Gilt Edge Project. A visit to Los Angeles to study the project files was made on 3 January, 1980. A trip was made to South Dakota on 27-30 January to interview the permit agencies/personnel and to investigate the general area of the proposed project. Together with telephone surveys of pertinent agencies and people, this is the basis of the present report.

REPORT ORGANIZATION.

This report (1) itemizes the permits needed and their governing agencies, (2) describes local and state politics which may impinge upon the project, (3) reviews environmental concerns and environmentalist pressures which may be encountered, (4) lists the names, addresses, and telephone numbers of the agencies/personnel which may need to be dealt with, and (5) contains an appendix of applications, regulations, laws, and other literature which have a bearing on the Gilt Edge Project.

This report deals only with those permits which generally are accepted to be 'environmental' in nature; it does not include the various engineering, safety, or business licenses and permits which any mining operation in any state must obtain.

GOVERNMENTAL & AGENCY ORGANIZATION

COUNTY. Lawrence County is governed by five elected commissioners: presently two are from Deadwood-Lead and three are from Spearfish. The Zoning Board has seven appointed members.

Lawrence County is one of only a few (three ?) counties which have planning departments. Steve Peters, the Planning Administrator, will be leaving in a few months but the county does plan to replace him.

STATE. The State Legislature is in session for eight weeks and six weeks on alternating years. (This is the year of the short session.) Further discussion can be found below.

The State Bureauocracy is divided in Departments, Divisions, and Offices. Some agencies have an office in Pierre and offices in certain outlying cities, e.g. Land Reclamation, Air Quality, and Water Quality. Others only have an office in Pierre, e.g., Water Rights.

Staffing on the state level is 'thin'. ('Efficient' may be a better way to put it.) Some agencies appear to be staffed with extremely young members, e.g., Air Quality and Water Quality, some with a mix of ages, e.g., Land Reclamation, and at least one with only older men, i.e., Water Rights. It is difficult to generalize, but it probably is fair to say that the environmental crusaders can be found among the young staff.

FEDERAL. The Forest Service at the Black Hills National Forest seems to be staffed with middle-aged personnel. Almost everyone I saw appeared to be in the 45-55 age bracket.

The main office of the Forest Service, the Forest Supervisor's Office, is in Custer but the people I spoke to there made it very plain that the District Ranger's Office in Deadwood would be the place to obtain any permits.

Region VIII of the Environmental Protection Agency (Denver, CO), from our personal experience, tends to have 35-45 year old personnel whose general intelligence and professional expertise is at least a few cuts above most governmental people. Generally, they are knowlegeable and fair.

PERMITS, CLEARANCES, PLANS, INFORMATION

AIR. The State of South Dakota Air Quality Office of the Department of Health is the permitting agency for air emissions. Fred Carl in Pierre (Table 1, III.E.1)is the permit officer. Regulations probably do not apply to mining because they are for point sources. An air emission permit (both to construct and to operate) would be need for a mill. Opacity is the important measurement.There are no blanket regulations to monitor before beginning operations; such a judgement is made on a case-by-case basis. It was my understanding that pre-operational monitoring would not be needed for the Gilt Edge Project, if we were able to generate regional data properly.

The Environmental Protection Agency (Region VIII in Denver) issues Prevention of SignificantDeterioration Permits for South Dakota. John Dale (Table 1, I.A.1.) is the permitting officer. Recent regulations in the Federal Register (2.5.80 & 9.5.79) make PSD permits for mining unnecessary although that could change when the EPA brings out new regulations in June, 1980. A mill could probably be fitted with proper emission controls to obviate the need for a PSD permit under the new rules, i.e., it would emit less than 250 T/Y after controls were placed on it.

ARCHAEOLOGY. The state and the USFS require archaeological clearance of lands before development is begun. Bob Alex in Fort Meade (Table 1, III.A.) could take care of this for both state & Feds. Bob felt that there is nothing of great significance in that area: an opinion confirmed by work done just south of Gilt Edge. Clearance could be done by students under his direction at $100/man-day.

GEOLOGICAL SURVEY. The State Geological Survey has no permitting responsibilites but Fred Steece (Table 1, III.G.) may be of some help about local ground water data.

HAZARDOUS WASTE. Tailings from a standard mill or from a heap-leach operation would need a hazardous waste permit. Kevin Tviedt (Table 1, III.E.2.) of the Hazardous Waste Office of the State Department of Health is the permitting officer. Since regulations are in the process of being written, it is difficult to predict the difficulty of this permitting exercise. A discussion with Tom Olsen leads me to believe that an empire is being created in this Office. The volume of topics that they will require to be discussed is large; the detail is unknown. All the topics are those CMC would want to engineer anyway but it would mean a lot of 'mickey-mouse'. Although this is an unknown, if South Dakota writes these regulations as they have the others, the obstacle would be surmountable.with a reasonable effort.

Tom Olsen was talking about modeling of contaminants, baseline studies, etc. However, two companies are in the process of getting heap-leach permits so we

might be able to learn from their experiences. Tom implied that they were small companies who were outraged at the requirements for a permit. Tom just might have been enjoying it.

If there are permit difficulties, this one and the USFS would seem to us to be the problem areas.

LEGAL. We spoke with Larry Kite, Assistant Attorney General for Natural Resources in Pierre (Table 1, III.B.) about the legal requirements of the state Environmental Protection Law. Larry said that no EIS is needed for environmentally oriented permits which would include all discussed in this report with the possible exception of water rights. There is a South Dakota Environmental Remedies Act which the Black Hills Alliance is well aware of.

Larry mentioned that the state has gone to court in an effort to prevent the USFS from issuing land patents to a proposed taconite operation near Nemo in the Black Hills. However, he felt that this company was its own worst enemy and had caused most of the problems themselves. It was mentioned as a sort of case history for CMC to study so that CMC would know what not to do.

He strongly implied that CMC should have adequate legal counsel for the Project. We believe that lawyers would refer to this as self-serving. Humor aside, that is good advice for any new project in the United States.

MINE RECLAMATION. The state regulates mine reclamation through the Department of Agriculture. Bill Harris (Table 1, III. C.1.) was most helpful. The guidelines (in appendix) are quite reasonable. They do not expect the pit to be backfilled but do expect slopes to be laid back into the general landscape and revegetated. The Department will provide as much help as desired in formulating a reclamation plan. Bill mentioned that he would need 'sign-offs' from archaeology and wildlife.

Although Gilt Edge Project is proposed only for patented land, there seems to be some thought that it could extend onto unpatented claims. In this case, a Mining Plan would be required for the Forest Service. Since we are going through this right now with the Northumberland Project, it seems unnecessary to go over the process. The Federal USFS regulations are included in the appendix as well as various literature about the Black Hills National Forest in general.

The Nemo Ranger District Office in Deadwood would be the permitting office (Table 1, I.B.1.) and Al Braddock and Paul Mock would be the people to work with.

SOCIOECONOMIC. The county 'fathers' would be the people primarily concerned with impacts such as road construction, highway traffic, housing, schools, etc.

The County Commissioners, through the Zoning Board, do have certain control over development within the county by virtue of need for zoning changes.

Steve Peters, the Lawrence County Planning Administrator, believes (but is not sure) that the Gilt Edge properties are zoned 'Park Forest District'. Development of the Gilt Edge Project would necessitate a change of zoning to 'Extractive Industry' or the obtaining of a 'Conditional Use Permit'. The latter might be the easiest route.

Steve felt that the county 'fathers' would be favorably inclined toward a new mining project in the county. They would look hard at such things as reclamation of the land to productive uses after mining, services (roads, housing, schools, etc.) needed by a new mining operation, whether any 'front-end' money was needed for county services, etc., etc., etc. None of these concerns appear to be unusual or unreasonable and we doubt that the Gilt Edge Project, because of its small size, would create many (or any) of these problems.

We understand that Homestake is well-liked in the community; this would not hurt the chances for a new mining operation.

SPECIAL USE PERMITS. If road widening is needed, and if this will be on Forest Service land, a special use permit will be needed. Al Braddock and Paul Mock of the Nemo Ranger District Office (Table 1, I.B.1.) are the people to work with. An Environmental Assessment Report (EAR) will have to be prepared.

Just to determine the basic outlook of the USFS, we mentioned the 'outside possibility' of a 120' wide road. At this, they blanched. The USFS will approve road-widening work within just a few months if it is a 'reasonable width', but they thought that an EIS, not just an EAR, would be needed for a 120' road. This was most enlightening; CMC can calculate the fact into planning if it decides to go ahead with Gilt Edge.

WATER HYGEINE. Marv Swanda in Pierre (Table 1, III.F.2.) handles sanitation matters although he seemed to feel that design according to regulations and guidelines (appendix VI.A.2.& 3.) would be sufficient.

Roger Marshall (Table 1, II.B.) handles matters of this sort at the county level.

WATER QUALITY. South Dakota, unlike most states, does not have authority to issue a National Pollution Discharge Elimination System (NPDES) permit. The EPA (Denver, Region VIII) actually issues a permit, if needed, but consults closely with the state. Dennis Rounds in Pierre (Table 1, III.F.1.) and Rob Walline in Denver (Table 1, I.A.2.) are the permitting officers.

A 'no-discharge' system for the mine would be simplest; so would it be for the mill if that is possible.

The hazardous waste permit (cf. above) would overlap with the NPDES permit.

WATER RIGHTS. Burt Jones in Pierre (Table 1, III.F.3.) said surface water in this area of the Black Hills mostly is appropriated and rights are hard to come by. Ground water rights are another story and would be CMC's best bet. Water rights forms are included in appendix VI.B.1. Since water rights are specific to each state, and since this is an arcane legal matter, we did not pursue the topic further.

WILDLIFE. This is a topic which will have to be investigated on tract both for the Department of Game, Fish & Parks and the USFS. We ferreted out the fact that the local Lead office would have sign-off responsibility (Table 1, III. D.) but made no attempt to contact anyone. It would be best if CMC first did their wildlife 'homework' for the tract before visiting with these people. It has been our experience that Fish & Game personnel will provide a 'laundry list' of needs that is a 'wish-list' unless they are approached from a position of strength.

ZONING. If, indeed, Gilt Edge properties are zoned 'Park Forest District', a zoning change will have to be applied for to the Zoning Board of Lawrence County. Cf. above under SOCIOECONOMIC.

MISCELLANY. The South Dakota Department of Environmental Protection is mentioned in various appendices; it no longer exists. Duties and permitting are carried on by the Departments so listed in this report.

Several years ago the state had a Division of Mines; it, too, no longer exists. It's duties are carried out by the Federal MSHA. Since MSHA is more an engineering than an environmental function, we did not contact this agency. We believe that MSHA's headquarters for the South Dakota region is in Denver.

ENVIRONMENTALIST OPPOSITION

A group of 'anti-nukes', called The Black Hills Alliance, was prominent in all discussions we had at all levels. All remarks were 'not for attribution'. (Cf. appendix VIII.A.1.for one of their publications.) The Alliance was formed to stop Carbide's proposal to begin uranium mining on the south flank of the Black Hills, and has expanded to fight the proposal to explore for uranium in east-central South Dakota.

The Black Hills Alliance joined a multitude of similar groups here in Denver in December to form URAN, a more-or-less national organization to stop uranium mining. The anti-nukes are moving their attention to other parts of the uranium fuel cycle than power plants.

The Black Hills Alliance scares a lot of people in South Dakota. Although

they have yet to turn their attention to things other than uranium, there is concern that this might happen.

This environmentalist group generally is perceived by government people as unreasonable, even irrational, yet it is admitted that they are effective at the legalistic delaying actions which have become their hallmark.

Another environmentalist group, The Black Hills Energy Coalition, is said to be an organization which people can work with.

There is a local Deadwood business-man, Dave Miller, Jr., who is the local environmentalist. He is older, has been financially successful in life, is not allied with The Black Hills Alliance, and will work with people. But he has assumed the role of the local environmental watch-dog.

STATE PERCEPTION OF MINING

South Dakota, despite the fact that the largest U.S. gold mine is located in the state, cannot be considered a 'mining state'. The general perception of mining is at best 'fuzzy'. A 100,000 ton/year mine is considered enormous.

The mining fraternity in Colorado has great respect for South Dakota School of Mines & Technology. Possibly some contact there would be helpful, especially since it is in Rapid City.

Aside from the Homestake gold mine, and aside from the '50's uranium mining around the Black Hills, mining appears to consist mostly of sand, gravel, limestone, and cement. The State of South Dakota owns cement plants in Rapid City, and is not above breaking contracts during shortages, a fact that has them in court at the present time.

It would not be inaccurate to say that agency people were interested in my visits re starting up a mining project, but were rather unprepared to discuss the permitting process in detail until they checked up on their duties in this area.

POLITICS.

In Pierre, we took the opportunity to have lunch with a couple of farm-oriented lobbyists and to spend about thirty minutes in the State Capitol watching the House of Representatives in active session. Appendix I.A. thorugh I.G. consists of various newspaper clippings which have some bearing on the Gilt Edge Project.

The Governor of South Dakota, Janklow, is a populist in the traditional sense

of that word. A person under the age of 55 is rare in the State House of Representatives. Most legislators are farmers or have a farming background. South Dakota cities are not so large that they have a majority in the legislature.

By most economic standards, South Dakota is a 'poor' state, although many economic standards are not all that applicable to the farming business. There is no state income tax. South Dakota is 'hurting' for money. The Milwaukee Railroad is on the verge of bankrupcy yet the farmers need this RR to get their crops (wheat, mostly) to market. Governor Janklow is proposing a $33 million state buy-out of South Dakota sections of the RR; since much of the roadbed is 56#, 5mph condition, the Governor may be underestimating the cost of up-grading the RR.

The Governor proposed, about a month ago, a windfall profits severence tax on gold: a direct attack on Homestake. The lobbyists believe that Homestake and Lawrence County will have enough political muscle to either kill the bill or to modify it radically. The bill comes up for vote today (2.12.80) and we will keep track of its progress for CMC.

Possibly Senator McGovern is not the Democrat phenomenon in a Republican State that out-of-staters think.

VARIOUS OBSERVATIONS

Dress is informal in South Dakota. People tend to appear clean and healthy with an absence of the 'hippy' look. Despite the almost universal informal dress, the State Legislators had on coat, collar, and tie.

Public buildings are far from palacious. They are clean and well-cared for; people obviously care.

The Black Hills was much more tourist oriented than we had imagined. The area was hard-hit by the gasoline shortage last summer and most think this will continue. It might make mining payrolls that much more acceptable.

The day we drove about the area of the project site, it was snowing hard with three inches of snow on the ground covering a layer of ice, the temperature was 4 below zero, and the rental auto was slipping on the Galena road. We exercised some discretion and did not attempt the final mile to the site. (There were some heavy-duty tire marks on the road.) Our general view of the area probably was sufficient for the purposes of this report.

The environmentalists have convinced the Forest Service to close roads in The Black Hills National Forest. People are just now becoming aware of this and many are upset. (Appendix I.B.) The issue was brought to my attention

numerous times during our visit. However, this issue will affect any request for road widening that CMC makes for the Gilt Edge Project.

Steve Peters confirmed our information that Homestake has excess mill capacity. He also reports that Homestake has a policy of not milling other than its own ore.

We drove through the town of Spearfish just for a general look. Together with surburbs, Spearfish is 7,500 to 10,000 in population. It is the other half of the Lawrence County population 'dumb-bell' and might be important to political considerations. Homestake has a lage sawmill in Spearfish, and some of the miners live here. The Black Hills Community College is the largest employer in town.

Morris Hoffman (Strawberry Hill Mining Co.) is trying to get a gold mining operation going in Lawrence County. He tried to find a mill site in the county but couldn't so has proposed a mill in Butte County. He still is trying to find a site for a mill in Lawrence County. He has both lode and placer claims. Bus. 578-1975; Home 578-2567. The County Commission appears sympathetic and would like to see another mill built.

Harlan Schmidt, an attorney in Spearfish,has a lot of patented property west of Gilt Edge which he wants to develop into summer cabins. He has heard of CMC's plans for the area and has passed the word that he is interested in selling these lands, most of which he picked up years ago at tax sales. Bus. 642-2622; Home 262-3122.

South Dakota is reputed to have the lowest average wages in the country. A number of cities are fighting over the location of a paper-board factory which would employ 95 workers.

The Chicago & Northwestern RR runs along the eastern and northern edge of the Black Hills. The Burlington Northern RR runs south of the Black Hills with a line extending through the Black Hills to Deadwood-Lead. This line has track with 56# to 132#.rail.

Lawrence County is a community with the old mining ethic of 'if it's there, get it out' which is tempered with a desire to leave the land useful.

Steve Peters thought that it would be important for CMC to make sure that everyone knew it was gold, and not uranium, that was proposed for mining.

CONCLUSION

From an environmental/permit point of view, the Gilt Edge Project could be developed without too great an effort or expenditure. Most of the permits

must issue by law within 30-90 days of application.

Potential difficulties would be with the hazardous waste permit, the Forest Service, and The Black Hills Alliance.

Working with the Lawrence County 'fathers' early-on would appear to be the best way to insure approval of all permits.

We have voluminous notes whcih have not been included because of the many very personal notations made on them. If CMC has further questions, we would be happy to consider them.

/rbs RBS 2/12/80

Attachments: table and appendix.

Table 1. Permitting Agencies/Personnel for South Dakota. (cont'd)

Agencies/Personnel	Address	Telephone #
D. Department of Game, Fish & Parks		
Conservation Officer	Trojan Road, Lead 57754	584-2300
E. Department of Health		
1. Air Quality Office		
*Fred Carl	Old Carnegie Library Bldg., Pierre	773-3329
Gene Nelson	308 West Blvd., Rapid City 57701	394-2385
2. Hazardous Waste Office		
*Kevin Tviedt	Old Carnegie Library Bldg., Pierre	773-3329
F. Department of Water & Natural Resources		
1. Water Quality Office		
*Dennis Rounds	Foss Bldg., Pierre 57501	773-3351
Garry Stevenson	308 West Blvd., Rapid City 57701	394-2385
2. Water Hygiene Office		
*Marv Swanda	Foss Bldg., Pierre 57501	773-3754
3. Water Rights Office		
*Burt Jones	Foss Bldg., Pierre 57501	773-3151
G. Geological Survey		
Fred Steece	308 West Blvd., Rapid City	394-2229

South Dakota area telephone code is (605).

*People with primary responsibility.

RBS to AAB. 2.12.80, SD environ. regs. - Table.

CHWENDINGER ASSOCIATES, INC. 3314 SOUTH ONEIDA WAY DENVER, CO 80224

Table 1. Permitting Agencies/Personnel for South Dakota.

Agencies/Personnel	Address	Telephone #
I. Federal Agencies		
A. Environmental Protection Agency, Region VIII		
1. Air Programs Branch	1860 Lincoln St., Denver 80203	(303) 837-3763
*John Dale		
2. Water & Haz. Wastes Enfor.	1860 Lincoln St., Denver 80203	(303) 837-4901
*Rob Walline		
Bob Shankland		
B. United States Forest Service		
1. Nemo Ranger District Office	460 Main, Deadwood 57732	578-2744
*Al Braddock, District Ranger		
*Paul Mock, Resources Assistant		
2. Forest Supervisor's Office	330 Mt. Rushmore Rd., Custer 57730	673-2251
Jim Morris, Natural & Cultural Resources		
John Shay, Archaeology		
II. County Agencies		
A. Planning Administrator	County Courthouse, Deadwood 57732	578-3871
*Steve Peters		
B. Northern Hills Sanitation	Deadwood Gulch, Lead 57754	584-2780
Roger Marshall		
III. State Agencies		
A. Archaeological Research Center	Fort Mead, 57741	347-3652
*Bob Alex		
B. Attorney General's Office	Anderson Bldg., Pierre 57501	773-3805
*Larry Kite, Natural Resources Assistant A.G.		
C. Department of Agriculture		
1. Surface Mining & Land Recl.		
*Bill Harris	Anderson Bldg., Pierre 57501	773-4201
Hugh Hiller	710 Jennings, Hot Springs 57747	745-4884

South Dakota area telephone code is (605).

*People with primary permitting responsibility.

ENVIRONMENTAL ASSOCIATES, INC.
3314 SOUTH ONEIDA WAY
DENVER, CO 80224

ASSAY AND GEOLOGIC LOGS

to accompany

SUMMARY REPORT

GILT EDGE EXPLORATION PROJECT
LAWRENCE COUNTY, SOUTH DAKOTA

1979 PROGRAM

February 1980

Appendices D and E

Heavy yellow stock

APPENDIX D

Assay Logs for Cyprus Rotary Drill Holes

79-GLE-125 through 79-GLE-188

ASSAY LOG

Gilt Edge Project
Lawrence County, South Dakota

RDH 79-GLE-125

Sample No.	Interval	Ft.	Au Oz/ton		Ag Oz/ton	
			Hunter	Union	Hunter	Union
79GE- 1	0-10'	10	trace	-	none	-
2	10-20'	10	trace	-	none	-
3	20-30'	10	trace	-	none	-
4	30-40'	10	0.010	0.005	none	0.1
5	40-50'	10	trace		none	-
6	50-60'	10	trace		none	-
7	60-70'	10	0.010	0.005	none	none
8	70-80'	10	0.026	0.010	none	0.3
9	80-90'	10	0.010	0.005	none	none
10	90-100'	10	0.024	0.005	none	0.1
11	100-110'	10	0.016	0.005	none	none
12	110-120'	10	0.012	0.005	none	none
13	120-130'	10	trace	0.010	none	none
14	130-140'	10	0.010	trace	none	0.1
15	140-150'	10	0.012	trace	none	none
16	150-160'	10	trace	-	none	-
17	160-170'	10	trace	-	none	-
18	170-180'	10	0.010	0.010	none	0.3
19	180-190'	10	0.010	trace	none	0.1
20	190-200'	10	-	-	none	-
21	200-210'	10	0.024	trace	none	none
22	210-220'	10	0.010	0.010	none	0.2
23	220-230'	10	trace	-	none	-
24	230-240'	10	trace	-	none	-
25	240-250'	10	0.014	0.020	none	0.1
	T.D.					

ASSAY LOG

Gilt Edge Project
Lawrence County, South Dakota

RDH 79-GLE-126

Sample No.	Interval	Ft.	Au Oz/ton Hunter	Au Oz/ton Union	Ag Oz/ton Hunter	Ag Oz/ton Union
79GE- 26	0-10'	10	0.026	0.055	none	0.1
27	10-20'	10	0.010	trace	none	none
28	20-30'	10	trace	trace	none	none
29	30-40'	10	none	-	none	-
30	40-50'	10	trace	-	none	-
31	50-60'	10	0.010	0.040	none	0.1
32	60-70'	10	trace	-	none	-
33	70-80'	10	trace	-	none	-
34	80-90'	10	trace	-	none	-
35	90-100'	10	trace	-	none	-
36	100-110'	10	0.010	trace	none	none
37	110-120'	10	trace	0.010	none	0.1
38	120-130'	10	0.010	0.020	none	none
39	130-140'	10	0.010	0.020	none	2.6
40	140-150'	10	trace	-	none	-
41	150-160'	10	trace	-	none	-
42	160-170'	10	trace	-	none	-
43	170-180'	10	0.010	0.010	none	none
44	180-190'	10	trace	trace	none	none
45	190-200'	10	0.010	trace	none	0.1
46	200-210'	10	0.010	0.010	none	none
47	210-220'	10	trace	0.020	none	0.7
48	220-230'	10	0.028	0.020	0.99	1.3
49	230-240'	10	0.010	0.020	none	0.2
50	240-250'	10	0.022	0.030	none	none
	T.D.					

ASSAY LOG

Gilt Edge Project
Lawrence County, South Dakota

RDH-79-GLE-127

Sample No.		Interval	Ft.	Au Oz/ton		Ag Oz/ton	
				Hunter	Union	Hunter	Union
79GE-	51	0-10'	10	0.016	0.030	none	0.2
	52	10-20'	10	0.014	0.030	none	none
	53	20-30'	10	0.010	0.010	none	0.1
	54	30-40'	10	0.010	trace	none	none
	55	40-50'	10	trace	-	none	-
	56	50-60'	10	trace	-	none	-
	57	60-70'	10	trace	-	none	-
	58	70-80'	10	trace	-	none	-
	59	80-90'	10	0.012	0.010	none	0.2
	60	90-100'	10	trace	0.005	0.04	0.5
	61	100-110'	10	-	0.010	-	none
	62	110-120'	10	0.010	0.010	none	none
	63	120-130'	10	0.010	0.020	none	none
	64	130-140'	10	0.012	0.005	none	0.4
	65	140-150'	10	0.010	0.010	none	0.5
	66	150-160'	10	0.010	0.010	none	none
	67	160-170'	10	0.016	0.030	none	0.2
	68	170-180'	10	1.018	0.020	none	none
	69	180-190'	10	trace	-	none	-
	70	190-200'	10	trace	-	none	-
	71	200-210'	10	-	0.005	-	0.1
	72	210-220'	10	trace	-	none	-
	73	220-230'	10	0.010	0.010	none	none
	74	230-240'	10	trace	trace	none	0.1
	75	240-250'	10	0.012	trace	none	none
		T.D.					

ASSAY LOG

Gilt Edge Project
Lawrence County, South Dakota

RDH 79-GLE-128

Sample No.	Interval	Ft.	Au Oz/ton		Ag Oz/ton	
			Hunter	Union	Hunter	Union
79GE- 76	0-10'	10	0.012	trace	none	0.1
77	10-20'	10	0.016	0.020	none	0.3
78	20-30'	10	0.010	0.010	none	0.2
79	30-40'	10	0.014	0.005	0.03	0.2
80	40-50'	10	0.014	0.020	0.23	0.3
81	50-60'	10	0.172	trace	none	none
82	60-70'	10	0.012	0.030	none	0.1
83	70-80'	10	0.028	0.090	0.01	0.1
84	80-90'	10	0.012	0.020	none	0.3
85	90-100'	10	trace	0.020	0.02	none
86	100-110'	10	0.010	trace	none	none
87	110-120'	10	-	-	-	-
88	120-130'	10	0.012	0.020	none	none
89	130-140'	10	none	0.020	none	0.1
90	140-150'	10	0.018	0.010	none	none
91	150-160'	10	0.020	0.010	none	none
92	160-170'	10	0.052	0.060	none	none
93	170-180'	10	trace	0.010	none	none
94	180-190'	10	0.010	trace	none	none
95	190-200'	10	0.022	trace	none	none
96	200-210'	10	trace	-	none	-
97	210-220'	10	trace	-	none	-
98	220-230'	10	0.010	trace	none	0.5
99	230-240'	10	trace	-	none	-
100	240-250'	10	trace	-	none	-
	T.D.					

ASSAY LOG

Gilt Edge Project
Lawrence County, South Dakota

RDH 79-GLE-129

Sample No.	Interval	Ft.	Au Oz/ton		Ag Oz/ton	
			Hunter	Union	Hunter	Union
79GE-101	0-10'	10	none	-	none	-
102	10-20'	10	trace	-	none	-
103	20-30'	10	trace	-	none	-
104	30-40'	10	trace	-	none	-
105	40-50'	10	0.010	trace	none	0.2
106	50-60'	10	0.016	trace	none	none
107	60-70'	10	none	-	none	-
108	70-80'	10	none	-	none	-
109	80-90'	10	trace	-	none	-
110	90-100'	10	none	-	none	-
111	100-110'	10	trace	-	none	-
112	110-120'	10	trace	-	none	-
113	120-130'	10	0.010	-	none	-
114	130-140'	10	trace	-	none	-
115	140-150'	10	trace	-	none	-
116	150-160'	10	trace	-	none	-
117	160-170'	10	trace	-	none	-
118	170-180'	10	0.052	0.050	none	none
119	180-190'	10	0.010	0.010	none	none
120	190-200'	10	-	0.010	none	none
121	200-210'	10	trace	trace	none	none
122	210-220'	10	0.010	trace	none	none
123	220-230'	10	trace	-	none	-
124	230-240'	10	none	-	none	-
125	240-250'	10	none	-	none	-
	T.D.					

ASSAY LOG

Gilt Edge Project
Lawrence County, South Dakota

RDH 79-GLE-130

Sample No.	Interval	Ft.	Au Oz/ton		Ag Oz/ton	
			Hunter	Union	Hunter	Union
79GE-126	0-10'	10	trace	-	none	-
127	10-20'	10	trace	-	none	-
128	20-30'	10	trace	-	none	-
129	30-40'	10	-	trace	-	none
130	40-50'	10	0.016	0.016	none	none
131	50-60'	10	trace	-	none	-
132	60-70'	10	trace	-	none	-
133	70-80'	10	trace	-	none	-
134	80-90'	10	trace	-	none	-
135	90-100'	10	none	-	none	-
136	100-110'	10	none	-	none	-
137	110-120'	10	trace	-	none	-
138	120-130'	10	trace	-	none	-
139	130-140'	10	0.010	trace	none	none
140	140-150'	10	trace	trace	none	none
141	150-160'	10	0.020	0.010	none	0.1
142	160-170'	10	0.012	0.028	none	none
143	170-180'	10	0.010	trace	none	none
144	180-190'	10	0.010	0.010	none	none
145	190-200'	10	trace	-	none	-
146	200-210'	10	trace	-	none	-
147	210-220'	10	0.012	0.022	none	0.2
148	220-230'	10	0.010	trace	none	none
149	230-240'	10	trace	-	none	-
150	240-250'	10	0.010	0.004	none	0.1
	T.D.					

ASSAY LOG

Gilt Edge Project
Lawrence County, South Dakota

RDH 79-GLE-131

Sample No.	Interval	Ft.	Au Oz/ton		Ag Oz/ton	
			Hunter	Union	Hunter	Union
79GE-201	0-10'	10	trace	-	none	-
202	10-20'	10	trace	-	none	-
203	20-30'	10	trace	-	none	-
204	30-40'	10	0.012	0.010	0.23	0.2
205	40-50'	10	0.024	0.020	0.20	0.3
206	50-60'	10	0.012	0.020	none	0.2
207	60-70'	10	0.010	0.010	0.06	none
208	70-80'	10	none	-	none	-
209	80-90'	10	0.030	0.030	0.33	0.4
210	90-100'	10	0.020	0.030	none	0.2
211	100-110'	10	0.010	0.010	0.07	0.1
212	110-120'	10	0.020	0.010	none	0.1
213	120-130'	10	0.014	0.010	none	0.2
214	130-140'	10	0.014	0.010	none	0.2
215	140-150'	10	0.022	0.010	none	none
216	150-160'	10	0.058	0.040	none	0.3
217	160-170'	10	0.012	0.020	none	none
218	170-180'	10	0.022	0.020	none	0.1
219	180-190'	10	-	0.010	-	0.1
220	190-200'	10	0.024	0.010	0.06	0.5
221	200-210'	10	-	0.010	-	0.2
222	210-220'	10	0.058	0.020	0.24	0.4
223	220-230'	10	0.012	0.010	none	0.1
224	230-240'	10	0.018	0.010	none	none
225	240-250'	10	0.010	0.020	none	none
	T.D.					

ASSAY LOG

Gilt Edge Project
Lawrence County, South Dakota

RDH 79-GLE-132

Sample No.	Interval	Ft.	Au Oz/ton		Ag Oz/ton	
			Hunter	Union	Hunter	Union
79GE-151	0-10'	10	trace	-	none	-
152	10-20'	10	trace	-	0.06	-
153	20-30'	10	none	-	none	-
154	30-40'	10	0.010	0.006	0.01	0.2
155	40-50'	10	trace	-	none	-
156	50-60'	10	trace	-	none	-
157	60-70'	10	0.010	0.016	none	0.2
158	70-80'	10	0.010	0.018	none	none
159	80-90'	10	0.018	0.014	none	0.2
160	90-100'	10	0.018	0.008	0.24	none
161	100-110'	10	0.010	trace	none	none
162	110-120'	10	0.010	trace	none	none
163	120-130'	10	0.028	0.008	none	0.2
164	130-140'	10	0.010	trace	none	0.1
165	140-15-'	10	0.010	0.008	none	none
166	150-160'	10	0.012	0.006	none	none
167	160-170'	10	0.010	0.014	none	none
168	170-180'	10	0.010	0.010	none	none
169	180-190'	10	0.034	0.036	none	0.1
170	190-200'	10	trace	-	none	-
171	200-210'	10	trace	-	none	-
172	210-220'	10	0.014	0.006	none	none
173	220-230'	10	trace	-	none	-
174	230-240'	10	0.016	0.004	none	none
175	240-250'	10	trace	-	none	-
	T.D.					

ASSAY LOG

Gilt Edge Project
Lawrence County, South Dakota

RDH 79-GLE-133

Sample No.	Interval	Ft.	Au Oz/ton		Ag Oz/ton	
			Hunter	Union	Hunter	Union
79GE-226	0-10'	10	trace	-	none	-
227	10-20'	10	trace	-	none	-
228	20-30'	10	0.012	0.020	none	0.1
229	30-40'	10	0.010	0.010	none	none
230	40-50'	10	0.010	0.010	none	none
231	50-60'	10	0.010	0.010	none	0.2
232	60-70'	10	0.010	0.010	none	0.2
233	70-80'	10	-	-	none	-
234	80-90'	10	trace	-	none	-
235	90-100'	10	trace	-	none	-
236	100-110'	10	-	-	none	-
237	110-120'	10	trace	-	none	-
238	120-130'	10	trace	-	none	-
239	130-140'	10	trace	-	none	-
240	140-150'	10	-	0.005	none	-
241	150-160'	10	trace	-	none	-
242	160-170'	10	trace	-	none	-
243	170-180'	10	0.052	0.050	0.89	1.3
244	180-190'	10	0.010	0.020	0.07	0.3
245	190-200'	10	0.010	0.005	none	none
246	200-210'	10	0.012	0.005	none	none
247	210-220'	10	none	-	none	-
248	220-230'	10	trace	-	none	-
249	230-240'	10	trace	-	none	-
250	240-250'	10	trace	-	none	-

T.D.

ASSAY LOG

Gilt Edge Project
Lawrence County, South Dakota

RDH 79-GLE-134

Sample No.	Interval	Ft.	Au Oz/ton		Ag Oz/ton	
			Hunter	Union	Hunter	Union
79GE-176	0-10'	10	trace	-	none	-
177	10-20'	10	trace	-	none	-
178	20-30'	10	0.010	-	0.03	-
179	30-40'	10	trace	-	none	-
180	40-50'	10	0.010	0.016	none	0.3
181	50-60'	10	0.010	0.020	0.01	none
182	60'70'	10	trace	-	none	-
183	70-80'	10	0.010	0.010	none	0.1
184	80-90'	10	trace	-	0.04	-
185	90-100'	10	trace	-	0.02	-
186	100-110'	10	trace	-	none	-
187	110-120'	10	trace	-	none	-
188	120-130'	10	trace	-	none	-
189	130-140'	10	0.010	trace	none	none
190	140-150'	10	trace	-	none	-
191	150-160'	10	0.020	0.024	none	none
192	160-170'	10	0.012	0.026	none	none
193	170-180'	10	0.012	0.016	none	0.1
194	180-190'	10	0.016	0.006	0.10	none
	T.D.					

ASSAY LOG

Gilt Edge Project
Lawrence County, South Dakota

RDH 79-GLE-135

Sample No.	Interval	Ft.	Au Oz/ton		Ag Oz/ton	
			Hunter	Union	Hunter	Union
79GE-251	0-10'	10	trace	-	none	-
252	10-20'	10	trace	-	none	-
253	20-30'	10	trace	-	none	-
254	30-40'	10	trace	-	none	-
255	40-50'	10	trace	-	none	-
256	50-60'	10	trace	-	none	-
257	60-70'	10	trace	-	none	-
258	70-80'	10	trace	-	none	-
259	80-90'	10	none	-	none	-
260	90-100'	10	trace	-	none	-
261	100-110'	10	trace	-	none	-
262	110-120'	10	trace	-	none	-
263	120-130'	10	none	-	none	-
264	130-140'	10	trace	-	none	-
265	140-140'	10	trace	-	none	-
266	150-160'	10	0.024	0.010	none	0.1
267	160-170'	10	trace	-	none	-
268	170-180'	10	trace	-	none	-
269	180-190'	10	trace	-	none	-
270	190-200'	10	0.010	0.010	none	0.1
271	200-210'	10	trace	-	none	-
272	210-220'	10	trace	-	none	-
273	220-230'	10	0.012	0.010	none	0.4
274	230-240'	10	0.010	0.005	none	0.1
275	240-250'	10	trace	-	none	-
	T.D.					

ASSAY LOG

Gilt Edge Project
Lawrence County, South Dakota

RDH 79-GLE-136

Sample No.	Interval	Ft.	Au Oz/ton		Ag Oz/ton	
			Hunter	Union	Hunter	Union
79GE-195	0-10'	10	trace	0.008	none	none
196	10-20'	10	0.012	0.005	none	0.1
197	20-30'	10	0.010	0.005	none	none
198	30-40'	10	trace	-	none	-
199	40-50'	10	trace	-	none	-
200	50-60'	10	trace	-	none	-
301	60-70'	10	trace	-	none	-
302	70-80'	10	trace	-	none	-
303	80-90'	10	trace	-	none	-
304	90-100'	10	none	-	none	-
305	100-110'	10	none	-	none	-
306	110-120'	10	trace	-	none	-
307	120-130'	10	0.010	0.005	none	0.1
308	130-140'	10	0.014	0.020	none	0.1
309	140-150'	10	trace	-	none	-
310	150-160'	10	trace	-	none	-
311	160-170'	10	trace	-	none	-
312	170-180'	10	none	-	none	-
313	180-190'	10	trace	-	none	-
314	190-200'	10	none	-	none	-
315	200-210'	10	none	-	none	-
316	210-220'	10	trace	-	none	-
317	220-230'	10	0.010	0.005	none	0.1
318	230-240'	10	trace	-	none	-
319	240-250'	10	0.010	0.010	none	none
	T.D.					

ASSAY LOG

Gilt Edge Project
Lawrence County, South Dakota

RDH 79-GLE-137

Sample No.	Interval	Ft.	Au Oz/ton		Ag Oz/ton	
			Hunter	Union	Hunter	Union
79GE-276	0-10'	10	0.018	0.030	none	none
277	10-20'	10	0.062	0.090	none	0.2
278	20-30'	10	trace	-	none	-
279	30-40'	10	trace	-	none	-
280	40-50'	10	0.010	trace	none	none
281	50-60'	10	0.010	trace	none	none
282	60-70'	10	0.010	none	none	0.3
283	70-80'	10	trace	-	none	-
284	80-90'	10	trace	-	none	-
285	90-100'	10	0.018	0.020	none	0.2
286	100-110'	10	trace	-	none	-
287	110-120'	10	none	-	none	-
288	120-130'	10	trace	-	none	-
289	130-140'	10	trace	-	none	-
290	140-150'	10	trace	-	none	-
291	150-160'	10	trace	-	none	-
292	160-170'	10	trace	-	none	-
293	170-180'	10	trace	-	none	-
294	180-190'	10	trace	-	none	-
295	190-200'	10	trace	-	none	-
296	200-210'	10	0.010	0.020	none	0.1
297	210-220'	10	0.082	0.080	none	0.2
298	220-230'	10	0.016	0.020	none	0.2
299	230-240'	10	0.026	0.020	none	0.2
300	240-250'	10	0.030	0.010	none	0.1
	T.D.					

ASSAY LOG

Gilt Edge Project
Lawrence County, South Dakota

RDH 79-GLE-138

Sample No.	Interval	Ft.	Au Oz/ton		Ag Oz/ton	
			Hunter	Union	Hunter	Union
79GE-320	0-10'	10	trace	-	none	-
321	10-20'	10	trace	-	none	-
322	20-30'	10	0.010	0.005	none	0.3
323	30-40'	10	0.010	0.010	0.09	0.4
324	40-50'	10	0.010	trace	none	0.3
325	50-60'	10	none	trace	none	0.3
326	60-70'	10	0.038	0.020	none	0.3
327	70-80'	10	0.010	0.004	none	0.2
328	80-90'	10	trace	-	none	-
329	90-100'	10	trace	-	none	-
330	100-110'	10	trace	-	none	-
331	110-120'	10	trace	-	none	-
332	120-13-'	10	trace	-	none	-
333	130-140'	10	trace	-	none	-
334	140-150'	10	0.010	trace	none	none
335	150-160'	10	none	-	none	-
336	160-170'	10	trace	-	none	-
337	170-180'	10	trace	-	none	-
338	180-190'	10	trace	-	none	-
339	190-200'	10	none	-	none	-
340	200-210'	10	trace	0.004	none	0.1
	T.D.					

ASSAY LOG

Gilt Edge Project
Lawrence County, South Dakota

RDH 79-GLE-139

Sample No.	Interval	Ft.	Au Oz/ton		Ag Oz/ton	
			Hunter	Union	Hunter	Union
79GE-401	0-10'	10	none	-	none	-
402	10-20'	10	none	-	none	-
403	20-30'	10	0.022	0.020	none	none
404	30-40'	10	0.014	0.010	none	none
405	40-50'	10	trace	-	none	-
406	50-60'	10	trace	-	none	-
407	60-70'	10	trace	-	0.010	-
408	70-80'	10	trace	-	none	-
409	80-90'	10	0.010	0.010	none	0.2
410	90-100'	10	0.012	0.010	none	none
411	100-100'	10	trace	-	none	-
412	110-120'	10	none	-	none	-
413	120-130'	10	trace	-	none	-
414	130-140'	10	trace	-	0.02	-
415	140-150'	10	trace	-	none	-
416	150-160'	10	trace	-	none	-
417	160-170'	10	none	-	none	-
418	170-180'	10	trace	-	none	-
419	180-190'	10	0.012	trace	none	0.1
420	190-200'	10	trace	-	none	-
421	200-210'	10	trace	-	none	-
422	210-220'	10	none	-	none	-
423	220-230'	10	trace	-	none	-
424	230-240'	10	0.010	trace	0.07	0.2
425	240-250'	10	none	-	none	-
	T.D.					

ASSAY LOG

Gilt Edge Project
Lawrence County, South Dakota

RDH 79-GLE-140

Sample No.	Interval	Ft.	Au Oz/ton		Ag Oz/ton	
			Hunter	Union	Hunter	Union
79GE-341	0-10'	10	0.016	0.020	none	0.2
342	10-20'	10	0.010	-	none	-
343	20-30'	10	0.012	0.010	none	none
344	30-40'	10	0.010	0.042	none	0.1
345	40-50'	10	0.020	0.018	none	none
346	50-60'	10	0.016	0.024	none	none
347	60-70'	10	0.012	0.012	none	0.2
348	70-80'	10	0.046	0.024	none	0.1
349	80-90'	10	0.036	0.036	none	none
350	90-100'	10	none	0.002	none	0.2
351	100-110'	10	0.010	0.004	none	none
352	110-120'	10	trace	0.022	none	none
353	120-130'	10	0.012	0.010	none	none
354	130-140'	10	trace	-	none	-
355	140-150'	10	trace	-	none	-
356	150-160'	10	0.012	0.004	none	none
357	160-170'	10	0.010	0.022	none	0.1
358	170-180'	10	0.010	0.004	none	0.3
359	180-190'	10	0.010	0.010	none	none
360	190-200'	10	0.022	0.015	none	0.1
361	200-210'	10	0.010	0.005	none	none
362	210-220'	10	0.016	0.020	none	none
363	220-230'	10	0.022	0.020	none	none
364	230-240'	10	0.010	0.005	none	0.2
365	240-250'	10	0.010	0.005	none	0.2
	T.D.					

ASSAY LOG

Gilt Edge Project
Lawrence County, South Dakota

RDH 79-GLE-141

Sample No.	Interval	Ft.	Au Oz/ton		Ag Oz/ton	
			Hunter	Union	Hunter	Union
79GE-426	0-10'	10	0.046	0.030	none	0.1
427	10-20'	10	0.040	0.020	none	none
428	20-30'	10	0.048	0.020	none	none
429	30-40'	10	0.222	0.180	none	0.4
430	40-50'	10	0.092	0.080	none	0.2
431	50-60'	10	0.030	0.010	none	0.2
432	60-70'	10	0.010	trace	none	none
433	70-80'	10	0.012	trace	none	none
434	80-90'	10	0.010	trace	none	none
435	90-100'	10	0.010	trace	none	0.1
436	100-110'	10	0.010	-	none	-
437	110-120-	10	0.010	none	none	0.1
438	120-130'	10	0.010	trace	none	0.2
439	130-140'	10	0.012	trace	none	0.1
440	140-15-'	10	0.020	0.010	none	0.1
441	150-160'	10	0.010	trace	none	none
442	160-170'	10	0.012	0.010	none	0.3
443	170-180'	10	0.012	0.010	none	none
444	180-190'	10	trace	trace	none	none
445	190-200'	10	0.022	0.010	none	0.1
446	200-210'	10	0.024	0.015	none	0.2
447	210-220'	10	trace	trace	none	none
448	220-230'	10	0.010	trace	0.07	none
449	230-240'	10	0.010	0.010	none	0.1
450	240-250'	10	0.016	0.010	0.06	0.2
451	250-260'	10	0.032	0.020	none	0.1
452	260-270'	10	0.026	0.025	0.11	0.2
453	270-280'	10	0.020	0.010	none	0.4
454	280-290'	10	0.014	0.015	none	0.5
455	290-300'	10	0.020	trace	none	0.2
	T.D.					

ASSAY LOG

Gilt Edge Project
Lawrence County, South Dakota

RDH 79-GLE-142

Sample No.	Interval	Ft.	Au Oz/ton		Ag Oz/ton	
			Hunter	Union	Hunter	Union
79GE-366	0-10'	10	trace	-	none	-
367	10-20'	10	none	-	none	-
368	20-30'	10	none	-	none	-
369	30-40'	10	trace	-	none	-
370	40-50'	10	trace	-	none	-
371	50-60'	10	none	-	none	-
372	60-70'	10	none	-	none	-
373	70-80'	10	none	-	none	-
374	80-90'	10	none	-	none	-
375	90-100'	10	trace	-	none	-
376	100-110'	10	none	-	none	-
377	110-120'	10	trace	-	none	-
378	120-130'	10	0.032	0.005	none	none
379	130-140'	10	none	-	none	-
380	140-150'	10	none	-	none	-
381	150-160'	10	none	-	none	-
382	160-170'	10	none	-	none	-
383	170-180'	10	none	-	none	-
384	180-190'	10	none	-	none	-
385	190-200'	10	trace	-	0.08	-
386	200-210'	10	0.026	0.020	0.04	0.2
387	210-220'	10	trace	-	none	0.1
388	220-230'	10	0.010	0.020	none	-
389	230-240'	10	trace	-	none	-
390	240-250'	10	trace	-	none	-
	T.D.					

ASSAY LOG

Gilt Edge Project
Lawrence County, South Dakota

RDH 79-GLE-143

Sample No.	Interval	Ft.	Au Oz/ton		Ag Oz/ton	
			Hunter	Union	Hunter	Union
79GE-456	1-10'	10	0.012	trace	0.017	none
457	10-20'	10	0.012	trace	0.017	none
458	20-30'	10	trace	-		-
459	30-40'	10	0.010	trace	none	none
460	40-50'	10	0.010	trace	none	0.1
461	50-60'	10	trace	-	none	-
462	60-70'	10	trace	-	0.016	-
463	70-80'	10	trace	-	0.010	-
464	80-90'	10	0.032	0.020	none	0.1
465	90-100'	10	0.010	trace	none	none
466	100-110'	10	0.016	trace	0.02	none
467	110-120'	10	trace	-	0.010	-
468	120-130'	10	trace	-	0.016	-
469	130-140'	10	trace	-	none	-
470	140-150'	10	trace	-	none	-
471	150-160'	10	trace	-	none	-
472	160-170'	10	trace	-	0.08	-
473	170-180'	10	trace	-	none	-
474	180-190'	10	0.010	0.010	0.29	none
475	190-200'	10	0.016	0.010	0.22	0.3
476	200-210'	10	trace	-	none	-
477	210-220'	10	trace	-	0.010	-
478	220-230'	10	0.034	trace	0.07	none
479	230-240'	10	trace	trace	0.06	0.2
480	240-250'	10	0.010	trace	none	0.2
	T.D.					

ASSAY LOG

Gilt Edge Project
Lawrence County, South Dakota

RDH 79-GLE-144

Sample No.	Interval	Ft.	Au Oz/ton		Ag Oz/ton	
			Hunter	Union	Hunter	Union
79GE-391	0-10'	10	trace	-	none	-
392	10-20'	10	trace	-	none	-
393	20-30'	10	trace	-	none	-
394	30-40'	10	none	-	none	-
395	40-50'	10	trace	-	none	-
396	50-60'	10	trace	-	-	-
397	60-70'	10	none	-	none	-
398	70-80'	10	trace	-	none	-
399	80-90'	10	0.010	0.005	none	0.1
400	90-100'	10	0.028	none	none	0.2
501	100-110'	10	0.012	trace	0.07	none
502	110-120'	10	0.010	trace	none	0.1
503	120-130'	10	trace	-	none	-
504	130-140'	10	trace	-	none	-
505	140-150'	10	trace	-	none	-
506	150-160'	10	none	-	0.16	-
507	160-170'	10	trace	-	0.26	-
508	170-180'	10	0.010	0.030	none	0.2
509	180-190'	10	0.014	0.020	0.5	0.1
510	190-200'	10	0.028	0.020	none	none
511	200-210'	10	0.034	0.030	0.9	0.2
512	210-220'	10	-	0.030	÷	0.2
513	220-230'	10	0.012	0.035	0.15	0.4
514	230-240'	10	0.018	0.010	none	0.2
515	240-250'	10	0.020	0.010	0.14	0.5
516	250-260'	10	0.042	0.010	none	0.4
517	260-270'	10	0.016	0.010	none	2.5

T.D.

ASSAY LOG

Gilt Edge Project
Lawrence County, South Dakota

RDH 79-GLE-145

Sample No.	Interval	Ft.	Au Oz/ton		Ag Oz/ton	
			Hunter	Union	Hunter	Union
79GE- 481	0-10'	10	0.018	0.010	0.12	0.2
482	10-20'	10	0.024	0.015	0.02	none
483	20-30'	10	0.058	0.025	0.14	0.3
484	30-40'	10	0.010	0.010	0.05	none
485	40-50'	10	0.018	trace	0.14	0.2
486	50-60'	10	0.020	0.010	0.12	none
487	60-70'	10	0.018	trace	0.10	0.1
488	70-80'	10	0.036	0.020	0.10	0.1
489	80-90'	10	0.018	0.020	0.28	0.2
490	90-100'	10	0.018	0.030	0.02	0.1
1227	100-110'	10	0.010	0.010	none	
1228	110-120'	10	0.056	0.015	none	
1229	120-130'	10	0.156	0.030	0.16	
1230	130-140'	10	0.034	0.030	none	
1231	140-150'	10	0.128	0.070	0.09	
1232	150-160'	10	0.046	0.060	0.03	
1233	160-170'	10	0.016	0.010	none	
1234	170-180'	10	0.012	0.010	0.79	
1235	180-190'	10	0.150	0.280	none	
1236	190-200'	10	0.030	0.050	0.17	
1237	200-210'	10	0.016	0.010	0.14	
1238	210-220'	10	0.010	0.005	0.15	
1239	220-230'	10	0.010	0.010	0.03	
1240	230-240'	10	0.034	0.050	0.24	
1241	240-250'	10	0.040	0.030	0.12	
1242	250-260'	10	0.028	-	0.01	
1243	260-270'	10	0.042	0.010	none	
1244	270-280'	10	0.012	0.010	none	
1245	280-290'	10	trace	-	none	
1246	290-300'	10	trace	-	0.34	
1247	300-310'	10	0.010	0.010	0.05	
1248	310-320'	10	0.012	0.015	0.03	
1249	320-330'	10	trace	-	none	
1250	330-340'	10	0.010	0.015	none	
1251	340-350'	10	0.010	0.005	0.17	
	T.D.					

ASSAY LOG

Gilt Edge Project
Lawrence County, South Dakota

RDH 79-GLE-146

Sample No.	Interval	Ft.	Au Oz/ton		Ag Oz/ton	
			Hunter	Union	Hunter	Union
79GE-518	0-10'	10	0.010	0.010	0.11	0.2
519	10-20'	10	0.012	0.010	none	0.3
520	20-30'	10	0.014	-	none	-
521	30-40'	10	trace	-	0.54	-
522	40-50'	10	trace	-	none	-
523	50-60'	10	0.010	-	0.1	-
524	60-70'	10	trace	-	none	-
525	70-80'	10	none	-	none	-
526	80-90'	10	trace	-	none	-
527	90-100'	10	trace	-	none	-
528	100-110'	10	trace	-	0.10	-
529	110-120'	10	0.010	trace	none	0.1
530	120-130'	10	none	-	none	-
531	130-140'	10	none	-	none	-
532	140-150'	10	none	-	none	-
533	150-160'	10	trace	-	0.06	-
534	160-170'	10	none	-	none	-
535	170-180'	10	none	-	none	-
536	180-190'	10	trace	-	0.32	-
537	190-200'	10	trace	-	0.06	-
538	200-210'	10	trace	-	none	-
539	210-220'	10	trace	-	none	-
540	220-230'	10	none	-	none	-
541	230-240'	10	none	-	none	-
542	240-250'	10	trace	-	0.12	-
	T.D.					

ASSAY LOG

Gilt Edge Project
Lawrence County, South Dakota

RDH 79-GLE-147

Sample No.	Interval	Ft.	Au Oz/ton		Ag Oz/ton	
			Hunter	Union	Hunter	Union
79GE-491	0-10'	10	0.010	trace	none	none
492	10-20'	10	trace	-	none	-
493	20-30'	10	none	-	0.10	-
494	30-40'	10	0.012	trace	0.11	none
495	40-50'	10	trace	-	none	-
496	50-60'	10	trace	-	none	-
497	60-70'	10	none	-	0.08	-
498	70-80'	10	trace	-	none	-
499	80-90'	10	trace	trace	none	none
500	90-100'	10	trace	-	none	-
601	100-110'	10	trace	-	none	-
	T.D.					

ASSAY LOG

Gilt Edge Project
Lawrence County, South Dakota

RDH 79-GLE-148

Sample No.	Interval	Ft.	Au Oz/ton		Ag Oz/ton	
			Hunter	Union	Hunter	Union
79GE-543	0-10'	10	0.010	0.010	0.05	0.1
544	10-20'	10	0.026	0.015	0.11	0.2
545	20-30'	10	0.038	0.010	0.06	0.4
546	30-40'	10	trace	-	0.10	-
547	40-50'	10	trace	-	0.02	-
548	50-60'	10	trace	-	none	-
549	60-70'	10	trace	-	0.12	-
550	70-80'	10	none	-	none	-
551	80-90'	10	trace	-	none	-
552	90-100'	10	none	-	0.16	-
553	100-110'	10	trace	trace	none	0.3
554	110-120'	10	trace	-	none	-
555	120-130'	10	trace	-	none	-
556	130-140'	10	trace	-	0.03	-
557	140-150'	10	0.010	none	none	0.3
558	150-160'	10	trace	-	none	-
559	160-170'	10	trace	-	0.16	-
560	170-180'	10	none	-	none	-
561	180-190'	10	trace	-	none	-
562	190-200'	10	none	-	none	-
563	200-210'	10	trace	-	none	-
564	210-220'	10	trace	-	none	-
565	220-230'	10	trace	-	0.16	-
566	230-240'	10	trace	-	none	-
567	240-250'	10	none	-	0.08	-
	T.D.					

ASSAY LOG

Gilt Edge Project
Lawrence County, South Dakota

RDH 79-GLE-149

Sample No.	Interval	Ft.	Au Oz/ton		Ag Oz/ton	
			Hunter	Union	Hunter	Union
79GE-602	0-10'	10	trace	-	0.08	-
603	10-20'	10	trace	-	0.22	-
604	20-30'	10	trace	-	0.04	-
605	30-40'	10	0.010	trace	none	0.2
606	40-50'	10	0.012	0.010	0.26	0.1
607	50-60'	10	trace	trace	none	0.1
608	60-70'	10	trace	-	0.04	-
609	70-80'	10	0.014	0.010	none	0.1
610	80-90'	10	0.010	0.010	0.23	none
611	90-100'	10	trace	0.010	none	0.1
612	100-110'	10	0.012	0.010	0.01	0.1
613	110-120'	10	trace	-	0.12	-
614	120-130'	10	trace	-	0.08	-
615	130-140'	10	0.010	0.050	0.21	0.3
616	140-150'	10	trace	0.005	none	0.1
617	150-160'	10	0.010	0.005	0.13	0.1
618	160-170'	10	0.012	0.010	none	0.1
619	170-180'	10	0.010	0.005	none	0.3
620	180-190'	10	0.010	0.005	none	0.2
621	190-200'	10	0.010	0.005	0.14	none
622	200-210'	10	trace	0.005	none	0.3
623	210-220'	10	0.010	0.005	none	none
624	220-230'	10	trace	-	none	-
625	230-240'	10	trace	-	0.16	-
626	240-250'	10	trace	-	0.12	-
	T.D.					

ASSAY LOG

Gilt Edge Project
Lawrence County, South Dakota

RDH 79-GLE-150

Sample No.	Interval	Ft.	Au Oz/ton Hunter	Au Oz/ton Union	Ag Oz/ton Hunter	Ag Oz/ton Union
79GE-568	0-10'	10	0.010	trace	none	0.1
569	10-20'	10	none	-	0.26	-
570	20-30'	10	none	-	0.28	-
571	30-40'	10	none	-	0.06	-
572	40-50'	10	none	-	none	-
573	50-60'	10	trace	-	none	-
574	60-70'	10	none	-	none	-
575	70-80'	10	trace	-	none	-
576	80-90'	10	0.012	0.010	0.02	0.1
577	90-100'	10	trace	-	0.16	-
578	100-110'	10	trace	-	none	-
579	110-120'	10	trace	-	none	-
580	120-130'	10	trace	-	none	-
581	130-140'	10	trace	-	none	-
582	140-150'	10	none	-	0.14	-
583	150-160'	10	none	-	none	-
584	160-170'	10	trace	-	0.02	-
585	170-180'	10	trace	-	none	-
586	180-190'	10	0.010	0.010	none	0.2
587	190-200'	10	none	-	none	-
588	200-210'	10	none	-	none	-
589	210-220'	10	none	-	none	-
590	220-230'	10	none	-	none	-
591	230-240'	10	trace	-	none	-
592	240-250'	10	trace	-	none	-
	T.D.					

ASSAY LOG

Gilt Edge Project
Lawrence County, South Dakota

RDH 79-GLE-151

Sample No.	Interval	Ft.	Au Oz/ton		Ag Oz/ton	
			Hunter	Union	Hunter	Union
79GE-627	0-10'	10	0.010	0.005	0.07	none
628	10-20'	10	trace	-	none	-
629	20-30'	10	0.010	0.005	0.01	none
630	30-40'	10	0.010	0.005	none	none
631	40-50'	10	trace	0.005	0.04	none
632	50-60'	10	0.010	0.010	0.07	0.3
633	60-70'	10	0.034	0.005	0.17	0.1
634	70-80'	10	0.048	0.050	0.01	0.5
635	80-90'	10	0.110	0.120	0.17	0.2
636	90-100'	10	0.020	0.010	0.02	0.1
637	100-110'	10	0.016	0.020	none	none
638	110-120'	10	trace	-	0.16	-
639	120-130'	10	trace	-	none	-
640	130-140'	10	0.010	0.020	none	none
641	140-150'	10	0.010	0.010	0.01	none
642	150-160'	10	trace	0.010	0.18	0.1
643	160-170'	10	0.010	0.010	0.05	none
644	170-180'	10	0.010	0.010	0.01	none
645	180-190'	10	0.010	0.010	none	none
646	190-200'	10	0.014	0.010	none	none
647	200-210'	10	trace	-	none	-
648	210-220'	10	trace	-	none	-
649	220-230'	10	trace	-	none	-
650	230-240'	10	0.012	0.020	0.15	0.2
651	240-250'	10	0.010	0.010	none	none
652	250-260'	10	0.018	0.010	none	0.1
653	260-270'	10	0.022	0.010	0.18	0.3
654	270-280'	10	0.018	0.005	0.12	0.1
655	280-290'	10	0.020	0.020	none	none
656	290-300'	10	0.018	0.020	0.18	0.3
657	300-310'	10	0.010	0.005	none	0.1
658	310-320'	10	trace	0.005	none	none
659	320-330'	10	0.018	0.020	none	none
660	330-340'	10	0.062	0.070	0.030	none
661	340-350'	10	0.014	0.010	none	none

T.D.

ASSAY LOG

Gilt Edge Project
Lawrence County, South Dakota

RDH 79-GLE-152

Sample No.	Interval	Ft.	Au Oz/ton Hunter	Au Oz/ton Union	Ag Oz/ton Hunter	Ag Oz/ton Union
79GE-593	0-10'	10	0.012	0.010	0.07	0.8
594	10-20'	10	0.032	0.035	0.20	0.3
595	20-30'	10	1.220	2.990	0.06	0.5
596	30-40'	10	0.018	0.020	none	1.1
597	40-50'	10	0.014	0.030	none	0.2
598	50-60'	10	0.050	0.040	none	0.3
599	60-70'	10	0.020	0.040	none	0.2
600	70-80'	10	0.010	0.010	none	0.1
701	80-90'	10	0.010	0.010	none	none
702	90-100'	10	0.014	0.010	none	none
703	100-110'	10	0.062	0.050	none	0.1
704	110-120'	10	0.046	0.050	none	0.3
705	120-130'	10	0.010	0.015	none	0.1
706	130-140'	10	0.014	0.010	0.03	none
707	140-150'	10	-	0.010 (a) 0.020 (b)	-	0.2 (a) 0.6 (b)
708	150-160'	10	trace	0.015	none	none
709	160-170'	10	0.012	0.020	none	none
710	170-180'	10	0.010	0.015	0.09	0.2
711	180-190'	10	0.012	-	none	-
712	190-200'	10	0.016	0.010	none	0.3
	T.D.					

ASSAY LOG

Gilt Edge Project
Lawrence County, South Dakota

RDH 79-GLE-153

Sample No.	Interval	Ft.	Au Oz/ton		Ag Oz/ton	
			Hunter	Union	Hunter	Union
79GE-662	0-10'	10	trace	-	0.10	-
663	10-20'	10	trace	-	none	-
664	20-30'	10	trace	-	none	-
665	30-40'	10	0.014	0.020	none	0.1
666	40-50'	10	0.020	0.005	none	0.2
667	50-60'	10	0.148	0.120	none	0.2
668	60-70'	10	0.124	0.120	none	none
669	70-80'	10	0.010	0.005	none	none
670	80-90'	10	trace	-	none	-
671	90-100'	10	trace	-	none	-
672	100-110'	10	trace	-	none	-
673	110-120'	10	trace	-	none	-
674	120-130'	10	trace	-	none	-
675	130-140'	10	0.012	0.010	none	none
676	140-150'	10	trace	-	none	-
677	150-160'	10	trace	-	none	-
678	160-170'	10	trace	-	none	-
679	170-180'	10	trace	-	none	-
680	180-190'	10	trace	-	none	-
681	190-200'	10	0.010	0.010	none	none
682	200-210'	10	0.010	0.010	none	0.1
683	210-220'	10	trace	-	none	-
684	220-230'	10	trace	-	none	-
685	230-240'	10	0.024	0.020	none	0.1
686	240-250'	10	0.020	0.020	none	none
687	250-260'	10	0.014	0.010	none	none
688	260-270'	10	0.010	0.005	none	none
689	270-280'	10	0.014	0.005	none	none
690	280-290'	10	0.014	0.010	none	0.1
691	290-300'	10	0.010	0.010	none	none
	T.D.					

ASSAY LOG

Gilt Edge Project
Lawrence County, South Dakota

RDH 79-GLE-154

Sample No.	Interval	Ft.	Au Oz/ton		Ag Oz/ton	
			Hunter	Union	Hunter	Union
79GE-713	0-10'	10	0.010	0.010	0.11	0.3
714	10-20'	10	trace	trace	0.08	0.2
715	20-30'	10	0.010	0.010	none	0.2
716	30-40'	10	0.016	0.010	0.20	0.4
717	40-50'	10	0.012	0.010	none	none
718	50-60'	10	trace	0.010	none	none
719	60-70'	10	0.014	0.010	0.09	none
720	70-80'	10	trace	-	0.04	-
721	80-90'	10	trace	-	0.10	-
722	90-100'	10	0.014	0.010	0.09	0.3
723	100-110'	10	0.030	0.010	none	0.1
724	110-120'	10	0.012	0.15	none	none
725	120-130'	10	0.012	0.20	0.01	none
726	130-140'	10	trace	-	none	-
727	140-150'	10	0.020	0.020	0.20	0.2

T.D.

ASSAY LOG

Gilt Edge Project
Lawrence County, South Dakota

RDH 79-GLE-155

Sample No.	Interval	Ft.	Au Oz/ton		Ag Oz/ton	
			Hunter	Union	Hunter	Union
79GE-692	0-10'	10	trace	-	none	-
693	10-20'	10	0.014	0.015	0.25	0.4
694	20-30'	10	0.010	0.010	0.07	0.1
695	30-40'	10	trace	-	0.24	-
696	40-50'	10	trace	-	0.02	-
697	50-60'	10	trace	-	0.14	-
698	60-70'	10	0.010	-	0.15	-
699	70-80'	10	trace	-	0.14	-
700	80-90'	10	trace	-	0.18	-
801	90-100'	10	trace	-	none	-
802	100-110'	10	0.010	0.010	0.19	none
803	110-120'	10	0.010	0.010	none	none
804	120-130'	10	0.026	0.010	0.01	none
805	130-140'	10	0.010	trace	0.37	none
806	140-150'	10	0.010	trace	0.09	none
807	150-160'	10	0.010	trace	0.17	none
808	160-170'	10	0.010	0.010	none	0.4
809	170-180'	10	0.036	0.030	0.32	0.4
810	180-190'	10	0.010	0.010	none	0.3
811	190-200'	10	trace	none	none	0.2
812	200-210'	10	0.012	0.010	none	0.4
813	210-220'	10	0.012	0.010	0.41	0.3
814	220-230'	10	0.012	0.010	0.07	0.2
815	230-240'	10	0.010	trace	none	0.2
816	240-250'	10	trace	0.010	none	none
817	250-260'	10	trace	0.010	none	0.1
	T.D.					

ASSAY LOG

Gilt Edge Project
Lawrence County, South Dakota

RDH 70-GLE-156

Sample No.	Interval	Ft.	Au Oz/ton		Ag Oz/ton	
			Hunter	Union	Hunter	Union
79GE-728	0-10'	10	0.032	0.020	0.07	none
729	10-20'	10	0.062	0.030	0.02	none
730	20-30'	10	0.064	0.030	0.32	none
731	30-40'	10	0.032	0.030	none	0.2
732	40-50'	10	0.028	0.030	0.11	none
733	50-60'	10	0.018	0.030	0.28	none
734	50-60'	10	0.016	0.020	none	none
735	70-80'	10	0.014	-	0.25	-
736	80-90'	10	0.012	0.010	0.17	none
	T.D.					

ASSAY LOG

Gilt Edge Project
Lawrence County, South Dakota

RDH 79-GLE-157

Sample No.	Interval	Ft.	Au Oz/ton		Ag Oz/ton	
			Hunter	Union	Hunter	Union
79GE-818	0-10'	10	0.018	0.010	0.32	0.4
819	10-20'	10	0.014	0.010	0.03	0.1
820	20-30'	10	0.028	0.010	0.39	0.3
821	30-40'	10	0.018	0.010	0.92	1.6
822	40-50'	10	0.040	0.010	0.32	0.5
823	50-60'	10	0.012	0.010	none	0.2
824	60-70'	10	0.044	0.030	none	0.7
825	70-80'	10	0.022	0.020	0.42	0.1
826	80-90'	10	0.026	0.020	0.53	0.1
827	90-100'	10	0.022	0.020	none	0.3
828	100-110'	10	trace	trace	0.34	none
829	110-120'	10	0.010	0.020	none	0.2
830	120-130'	10	0.028	0.020	0.01	0.2
831	130-140'	10	0.020	trace	none	none
832	140-150'	10	0.016	0.010	0.18	0.2
833	150-160'	10	0.018	0.010	none	0.2
834	160-170'	10	0.026	0.010	none	0.3
835	170-180'	10	0.034	0.035	0.07	0.4
836	180-190'	10	0.056	0.030	none	0.3
837	190-200'	10	0.050	0.030	none	0.6
838	200-210'	10	0.024	0.030	0.06	0.3
	T.D.					

ASSAY LOG

Gilt Edge Project
Lawrence County, South Dakota

RDH 70-GLE-158

Sample No.	Interval	Ft.	Au Oz/ton		Ag Oz/ton	
			Hunter	Union	Hunter	Union
79GE-737	0-10'	10	0.016	0.010	none	0.2
738	10-20'	10	0.012	0.010	0.13	0.1
739	20-30'	10	0.014	0.010	none	none
740	30-40'	10	trace	0.010	0.36	0.2
741	40-50'	10	0.010	0.010	0.07	none
742	50-60'	10	0.042	0.030	none	0.3
743	60-70'	10	0.012	-	0.09	-
744	70-80'	10	0.012	-	-	-
745	80-90'	10	0.016	0.020	none	0.1
746	90-100'	10	0.010	0.010	none	0.1
747	100-110'	10	trace	0.010	0.32	none
748	110-120'	10	trace	0.010	-	0.1
749	120-130'	10	0.010	0.010	none	0.1
750	130-140'	10	0.010	0.010	0.13	none
751	140-150'	10	trace	-	0.14	-
752	150-160'	10	trace	-	0.30	-
753	160-170'	10	0.010	0.010	none	none
754	170-180'	10	trace	0.010	none	none
755	180-190'	10	trace	-	0.22	-
	T.D.					

ASSAY LOG

Gilt Edge Project
Lawrence County, South Dakota

RDH 79-GLE-159

Sample No.	Interval	Ft.	Au Oz/ton		Ag Oz/ton	
			Hunter	Union	Hunter	Union
79GE-839	0-10'	10	0.014	0.010	0.15	0.1
840	10-20'	10	trace	0.010	none	0.1
841	20-30'	10	0.010	0.010	none	0.3
842	30-40'	10	0.010	0.010	none	0.2
843	40-50'	10	0.044	0.030	none	0.1
844	50-60'	10	0.022	0.015	none	none
845	60-70'	10	0.020	0.020	none	0.4
846	70-80'	10	0.032	0.025	none	0.5
847	80-90'	10	0.050	0.020	-	0.4
848	90-100'	10	0.076	0.030	none	0.3
849	100-110'	10	0.042	0.050	none	0.6
850	110-120'	10	0.052	0.040	none	0.4
851	120-130'	10	0.048	0.060	none	0.3
852	130-140'	10	0.026	0.010	none	0.2
853	140-150'	10	0.048	0.060	none	none
854	150-160'	10	0.014	0.030	none	0.2
855	160-170'	10	0.016	0.020	0.08	0.2
856	170-180'	10	0.012	0.010	none	0.4
857	180-190'	10	0.018	0.020	none	0.1
858	190-200'	10	0.016	0.010	none	0.2
	T.D.					

ASSAY LOG

Gilt Edge Project
Lawrence County, South Dakota

RDH 79-GLE-160

Sample No.	Interval	Ft.	Au Oz/ton		Ag Oz/ton	
			Hunter	Union	Hunter	Union
79GE-1425	0-10'	10	0.010	-	none	
1426	10-20'	10	trace	-	none	
1427	20-30'	10	trace	-	none	
1428	30-40'	10	trace	-	none	
1429	40-50'	10	trace	-	none	
1430	50-60'	10	trace	-	none	
1431	60-70'	10	0.044	-	none	
1432	70-80'	10	trace	-	none	
1433	80-90'	10	trace	-	none	
1434	90-100'	10	trace	-	none	
1435	100-110'	10	none	-	none	
1436	110-120'	10	trace	-	0.10	
1437	120-130'	10	0.010	0.010	none	
1438	130-140'	10	0.022	-	-	
1439	140-150'	10	trace	0.010	none	
1440	150-160'	10	0.010	0.010	none	
1441	160-170'	10	0.010	0.010	none	
1442	170-180'	10	trace	-	none	
1443	180-190'	10	-	0.010	-	
1444	190-200'	10	trace	-	none	
	T.D.					

ASSAY LOG

Gilt Edge Project
Lawrence County, South Dakota

RDH 79-GLE-161

Sample No.	Interval	Ft.	Au Oz/ton		Ag Oz/ton	
			Hunter	Union	Hunter	Union
79GE-859	0-10'	10	0.066	0.050	0.3	none
860	10-20'	10	0.010	0.010	none	0.1
861	20-30'	10	0.016	-	none	-
862	30-40'	10	trace	-	none	-
863	40-50'	10	0.010	0.010	0.27	none
864	50-60'	10	0.010	0.010	none	0.1
865	60-70'	10	0.010	0.010	none	0.1
866	70-80'	10	trace	0.010	0.20	0.1
867	80-90'	10	0.010	0.010	none	0.1
868	90-100'	10	0.012	0.010	0.09	0.1
869	100-110'	10	0.010	0.010	none	0.1
870	110-120'	10	0.010	0.010	0.21	0.1
871	120-130'	10	trace	0.010	0.02	0.1
872	130-140'	10	0.012	0.005	none	none
873	140-150'	10	0.010	trace	0.07	0.1
874	150-160'	10	0.014	0.010	none	0.2
875	160-170'	10	trace	trace	none	none
876	170-180'	10	trace	-	none	-
877	180-190'	10	0.016	0.010	none	0.5
878	190-200'	10	0.010	0.010	none	none
879	200-210'	10	trace	none	none	none
880	210-220'	10	trace	-	none	-
881	220-230'	10	none	-	none	-
882	230-240'	10	trace	-	none	-
883	240-250'	10	trace	-	none	-
884	250-260'	10	none	-	none	-
885	260-270'	10	0.010	0.010	none	0.2
886	270-280'	10	0.010	0.010	none	0.1

T.D.

ASSAY LOG

Gilt Edge Project
Lawrence County, South Dakota

RDH 79-GLE-162

Sample No.	Interval	Ft.	Au Oz/ton		Ag Oz/ton	
			Hunter	Union	Hunter	Union
79GE-1390	0-10'	10	-	-	-	
1391	10-20'	10	0.074	0.065	none	
1392	20-30'	10	0.046	0.060	0.15	
1393	30-40'	10	0.074	0.047	0.11	
1394	40-50'	10	0.032	0.050	none	
1395	50-60'	10	0.054	0.050	none	
1396	60-70'	10	0.040	0.070	0.32	
1397	70-80'	10	0.050	0.060	none	
1398	80-90'	10	0.054	0.040	none	
1399	90-100'	10	0.066	0.050	none	
1400	100-110'	10	0.062	0.060	0.16	
1401	110-120'	10	0.060	0.060	0.50	
1402	120-130'	10	0.042	0.040	none	
1403	130-140'	10	0.064	0.070	0.12	
1404	140-150'	10	0.046	0.050	none	
1405	150-160'	10	0.042	0.050	none	
1406	160-170'	10	0.062	0.050	none	
1407	170-180'	10	0.028	0.020	0.03	
1408	180-190'	10	0.028	0.020	none	
1409	190-200'	10	0.044	0.070	none	
1410	200-210'	10	0.034	0.010	none	
1411	210-220'	10	0.044	0.025	none	
1412	220-230'	10	0.020	0.010	none	
1413	230-240'	10	0.026	0.010	none	
1414	240-250'	10	-	0.020	none	
1415	250-260'	10	0.022	0.020	-	
1416	260-270'	10	0.096	0.060	none	
1417	270-280'	10	0.026	0.020	none	
1418	280-290'	10	0.046	0.020	none	
1419	290-300'	10	0.014	0.010	none	
1420	300-310'	10	0.030	0.020	none	
1421	310-320'	10	0.038	0.040	none	
1422	320-330'	10	0.012	0.030	none	
1423	330-340'	10	0.022	0.030	none	
1424	340-350'	10	0.024	0.030	none	

T.D.

ASSAY LOG

Gilt Edge Project
Lawrence County, South Dakota

RDH 79-GLE-163

Sample No.	Interval	Ft.	Au Oz/ton		Ag Oz/ton	
			Hunter	Union	Hunter	Union
79GE-887	0-10'	10	0.020	0.010	0.28	none
888	10-20'	10	0.046	0.010	0.33	0.5
889	20-30'	10	0.022	0.010	0.32	0.5
890	30-40'	10	0.060	0.050	0.24	0.5
891	40-50'	10	0.044	0.050	0.06	0.5
892	50-60'	10	0.040	0.050	0.34	0.6
893	60-70'	10	0.084	0.090	0.40	0.3
894	70-80'	10	0.190	-	0.49	-
895	80-90'	10	0.076	0.085	0.14	0.5
896	90-100'	10	0.014	0.020	none	0.4
897	100-110'	10	0.014	0.010	0.19	0.2
898	110-120'	10	0.020	0.005	0.42	0.3
899	120-130'	10	0.010	0.010	none	none
900	130-140'	10	0.010	0.010	0.55	none
1001	140-150'	10	trace	0.010	none	0.1
1002	150-160'	10	trace	-	none	-
1003	160-170'	10	trace	-	none	-
1004	170-180'	10	trace	-	none	-
1005	180-190'	10	trace	-	none	-
1006	190-200'	10	trace	-	none	-
1007	200-210'	10	trace	-	none	-
1008	210-220'	10	trace	-	none	-
1009	220-230'	10	trace	-	none	-
1010	230-240'	10	trace	-	none	-
1011	240-250'	10	trace	-	none	-
	T.D.					

ASSAY LOG

Gilt Edge Project
Lawrence County, South Dakota

RDH 79-GLE-164

Sample No.	Interval	Ft.	Au Oz/ton		Ag Oz/ton	
			Hunter	Union	Hunter	Union
79GE-1365	0-10'	10	trace	trace	none	
1366	10-20'	10	0.010	trace	none	
1367	20-30'	10	trace	trace	0.13	
1368	30-40'	10	0.034	0.015	0.13	
1369	40-50'	10	trace	-	none	
1370	50-60'	10	trace	-	none	
1371	60-70'	10	0.010	0.010	none	
1372	70-80'	10	trace	-	0.08	
1373	80-90'	10	trace	-	none	
1374	90-100'	10	trace	-	0.08	
1375	100-110'	10	none	-	0.04	
1376	110-120'	10	none	-	none	
1377	120-130'	10	trace	-	0.10	
1378	130-140'	10	none	-	0.08	
1379	140-150'	10	0.010	0.010	none	
1380	150-160'	10	trace	-	none	
1381	160-170'	10	trace	-	none	
1382	170-180'	10	none	-	0.08	
1383	180-190'	10	none	-	0.10	
1384	190-200'	10	none	-	-	
1385	200-210'	10	none	-	none	
1386	210-220'	10	0.026	0.020	0.09	
1387	220-230'	10	0.024	0.020	0.06	
1388	230-240'	10	0.046	0.030	0.03	
1389	240-250'	10	0.044	0.030	0.04	
	T.D.					

ASSAY LOG

Gilt Edge Project
Lawrence County, South Dakota

RDH 79-GLE-165

Sample No.	Interval	Ft.	Au Oz/ton		Ag Oz/ton	
			Hunter	Union	Hunter	Union
79GE-1012	0-10'	10	0.010	0.010	none	0.3
1013	10-20'	10	0.010	0.010	none	0.1
1014	20-30'	10	0.010	0.010	none	0.1
1015	30-40'	10	trace	0.010	none	0.2
1016	40-50'	10	0.010	0.010	none	0.1
1017	50-60'	10	trace	-	none	-
1018	60-70'	10	trace	-	none	-
1019	70-80'	10	trace	-	none	-
1020	80-90'	10	0.034	0.010	0.03	none
1021	90-100'	10	trace	-	none	-
1022	100-110'	10	0.014	0.010	none	0.1
1023	110-120'	10	trace	-	none	-
1024	120-130'	10	trace	-	0.02	-
1025	130-140'	10	0.012	0.010	none	none
1026	140-150'	10	trace	-	none	-
1027	150-160'	10	trace	-	none	-
1028	160-170'	10	trace	-	none	-
1029	170-180'	10	0.018	0.010	none	none
1030	180-190'	10	trace	-	none	-
1031	190-200'	10	trace	-	none	-
1032	200-210'	10	trace	-	none	-
1033	210-220'	10	trace	-	none	-
1034	220-230'	10	0.154	0.010	none	none
1035	230-240'	10	0.012	0.010	none	none
1036	240-250'	10	0.012	0.005	none	none
1037	250-260'	10	0.012	0.010	none	none
1038	260-270'	10	0.012	trace	none	0.1
1039	270-280'	10	trace	none	none	0.1
1040	280-290'	10	0.024	trace	none	none
1041	290-300'	10	0.060	0.010	0.02	0.1
	T.D.					

ASSAY LOG

Gilt Edge Project
Lawrence County, South Dakota

RDH 79-GLE-166

Sample No.	Interval	Ft.	Au Oz/ton		Ag Oz/ton	
			Hunter	Union	Hunter	Union
79GE-1345	0-10'	10	0.020	-	0.16	-
1346	10-20'	10	0.028	0.020	0.09	-
1347	20-30'	10	0.812	0.510	0.47	-
1348	30-40'	10	0.050	0.200	0.03	-
1349	40-50'	10	0.062	0.040	none	-
1350	50-60'	10	0.054	0.045	none	-
1351	60-70'	10	0.020	0.020	none	-
1352	70-80'	10	0.014	0.020	none	-
1353	80-90'	10	trace	trace	none	-
1354	90-100'	10	0.012	0.010	none	-
1355	100-110'	10	0.016	0.010	none	-
1356	110-120'	10	0.026	0.010	none	-
1357	120-130'	10	trace	trace	none	-
1358	130-140'	10	0.012	0.010	0.01	-
1359	140-150'	10	0.014	0.010	0.03	-
1360	150-160'	10	0.014	0.010	none	-
1361	160-170'	10	0.162	0.050	none	-
1362	170-180'	10	0.032	0.060	0.11	-
1363	180-190'	10	0.054	0.030	none	-
1364	190-200'	10	0.042	0.025	none	-
	T.D.					

ASSAY LOG

Gilt Edge Project
Lawrence County, South Dakota

RDH 79-GLE-167

Sample No.	Interval	Ft.	Au Oz/ton		Ag Oz/ton	
			Hunter	Union	Hunter	Union
79GE-1042	0-10'	10	0.026	0.020	none	none
1043	10-20'	10	trace	-	0.04	-
1044	20-30'	10	trace	-	0.10	-
1045	30-40'	10	trace	-	none	-
1046	40-50'	10	0.012	0.005	none	none
1047	50-60'	10	0.010	trace	none	none
1048	60-70'	10	trace	trace	none	none
1049	70-80'	10	0.010	trace	0.03	none
1050	80-90'	10	trace	-	none	-
1051	90-100'	10	trace	-	none	-
1052	100-110'	10	trace	-	none	-
1053	110-120'	10	trace	-	none	-
1054	120-130'	10	none	-	none	-
1055	130-140'	10	-	trace	-	-
1056	140-150'	10	trace	-	none	-
1057	150-160'	10	trace	-	none	-
1058	160-170'	10	trace	-	none	-
1059	170-180'	10	0.022	0.005	0.04	0.1
1060	180-190'	10	trace	trace	0.24	none
1061	190-200'	10	0.014	0.005	none	none
1062	200-210'	10	0.024	0.010	0.04	none
1063	210-220'	10	0.010	0.010	none	none
1064	220-230'	10	trace	-	none	-
1065	230-240'	10	0.010	0.010	0.01	none
1066	240-250'	10	0.010	-	none	-
1067	250-260'	10	trace	trace	0.06	-
1068	260-270'	10	trace	-	0.04	-
1069	270-280'	10	0.038	0.040	none	none
1070	280-290'	10	0.014	0.010	none	0.1
1071	290-300'	10	trace	0.010	none	0.2

T.D.

ASSAY LOG

Gilt Edge Project
Lawrence County, South Dakota

RDH 79-GLE-168

Sample No.	Interval	Ft.	Au Oz/ton		Ag Oz/ton	
			Hunter	Union	Hunter	Union
79GE-1327	0-10'	10	0.022	0.020	0.22	-
1328	10-20'	10	0.018	0.010	none	-
1329	20-30'	10	trace	-	none	-
1330	30-40'	10	0.012	0.010	none	-
1331	40-50'	10	0.016	-	none	-
1332	50-60'	10	0.014	0.010	none	-
1333	60-70'	10	0.024	0.010	none	-
1334	70-80'	10	0.034	0.015	none	-
1335	80-90'	10	0.052	0.030	none	-
1336	90-100'	10	0.046	-	0.01	-
1337	100-110'	10	0.024	-	none	-
1338	110-120'	10	0.064	0.040	none	-
1339	120-130'	10	0.068	-	none	-
1340	130-140'	10	0.036	0.040	none	-
1341	140-150'	10	0.032	0.035	none	-
1342	150-160'	10	0.048	-	none	-
1343	160-170'	10	0.010	0.010	none	-
1344	170-180'	10	0.036	0.020	0.16	-
	T.D.					

ASSAY LOG

Gilt Edge Project
Lawrence County, South Dakota

RDH 79-GLE-169

Sample No.	Interval	Ft.	Au Oz/ton		Ag Oz/ton	
			Hunter	Union	Hunter	Union
79GE-1072	0-10'	10	0.052	-	0.13	-
1073	10-20'	10	0.052	-	0.13	-
1074	20-30'	10	0.038	0.040	none	-
1075	30-40'	10	0.022	0.010	none	-
1076	40-50'	10	0.022	0.015	none	-
1077	50-60'	10	0.028	-	0.03	-
1078	60-70'	10	0.032	0.010	none	-
1079	70-80'	10	0.014	-	none	-
1080	80-90'	10	0.016	-	none	-
1081	90-100'	10	0.016	0.010	0.06	-
1082	100-110'	10	trace	0.010	none	-
1083	110-120'	10	0.026	-	0.010	-
1084	120-130'	10	0.016	0.010	none	-
1085	130-140'	10	trace	-	none	-
1086	140-150'	10	trace	-	none	-
1087	150-160'	10	trace	-	none	-
1088	160-170'	10	0.024	0.010	0.010	-
1089	170-180'	10	trace	-	0.02	-
1090	180-190'	10	trace	-	0.12	-
1091	190-200'	10	trace	-	none	-
1092	200-210'	10	trace	-	none	-
1093	210-220'	10	trace	-	0.16	-
1094	220-230'	10	trace	-	none	-
1095	230-240'	10	-	0.010	-	-
1096	240-250'	10	-	-	0.26	-
1097	250-260'	10	trace	-	0.16	-
1098	260-270'	10	0.018	0.010	none	-
1099	270-280'	10	trace	-	none	-
1100	280-290'	10	trace	-	0.010	-
1101	290-300'	10	0.010	0.010	none	-

ASSAY LOG

Gilt Edge Project
Lawrence County, South Dakota

RDH 79-GLE-170

Sample No.	Interval	Ft.	Au Oz/ton		Ag Oz/ton	
			Hunter	Union	Hunter	Union
79GE-1302	0-10'	10	0.018	0.010	none	-
1303	10-20'	10	0.018	0.010	none	-
1304	20-30'	10	0.022	0.030	none	-
1305	30-40'	10	0.508	0.700	0.71	-
1306	40-50'	10	0.026	0.020	none	-
1307	50-60'	10	0.036	0.030	none	-
1308	60-70'	10	0.036	0.030	none	-
1309	70-80'	10	0.048	0.020	none	-
1310	80-90'	10	0.086	0.100	none	-
1311	90-100'	10	0.026	0.040	none	-
1312	100-110'	10	0.046	0.080	none	-
1313	110-120'	10	0.068	0.080	0.03	-
1314	120-130'	10	0.062	-	none	-
1315	130-140'	10	0.032	0.020	none	-
1316	140-150'	10	0.026	0.040	none	-
1317	150-160'	10	0.038	0.020	none	-
1318	160-170'	10	0.044	0.030	none	-
1319	170-180'	10	0.040	-	none	-
1320	180-190'	10	0.022	0.030	none	-
1321	190-200'	10	0.078	0.070	none	-
1322	200-210'	10	0.056	-	-	-
1323	210-220'	10	0.048	0.040	none	-
1324	220-230'	10	0.012	0.010	none	-
1325	230-240'	10	0.030	0.020	none	-
1326	240-250'	10	0.018	0.020	none	-
	T.D.					

ASSAY LOG

Gilt Edge Project
Lawrence County, South Dakota

RDH 79-GLE-171

Sample No.	Interval	Ft.	Au Oz/ton		Ag Oz/ton	
			Hunter	Union	Hunter	Union
79GE-1102	0-10'	10	0.046	-	0.43	-
1103	10-20'	10	0.062	-	0.16	-
1104	20-30'	10	0.028	-	0.15	-
1105	30-40'	10	0.012	-	0.11	-
1106	40-50'	10	0.014	0.010	none	-
1107	50-60'	10	trace	0.010	none	-
1108	60-70'	10	0.050	0.010	none	-
1109	70-80'	10	trace	-	none	-
1110	80-90'	10	0.012	0.010	none	-
1111	90-100'	10	trace	-	none	-
1112	100-110'	10	0.026	-	0.03	-
1113	110-120'	10	0.010	-	0.17	-
1114	120-310'	10	trace	-	none	-
1115	130-140'	10	trace	-	none	-
1116	140-150'	10	0.014	0.010	none	-
1117	150-160'	10	trace	0.010	none	-
1118	160-170'	10	0.010	0.010	0.37	-
1119	170-180'	10	trace	-	none	-
1120	180-190'	10	trace	-	none	-
1121	190-200'	10	trace	-	0.06	-
1122	200-210'	10	trace	-	0.14	-
1123	210-220'	10	trace	-	0.08	-
1124	220-230'	10	trace	-	none	-
1125	230-240'	10	trace	-	none	-
1126	240-250'	10	0.012	0.010	none	-
1127	250-260'	10	0.018	0.010	none	-
1128	260-270'	10	trace	-	none	-
1129	270-280'	10	trace	-	0.08	-
1130	280-290'	10	trace	-	none	-
1131	290-300'	10	0.010	0.010	none	-
	T.D.					

ASSAY LOG

Gilt Edge Project
Lawrence County, South Dakota

RDH 79-GLE-172

Sample No.	Interval	Ft.	Au Oz/ton		Ag Oz/ton	
			Hunter	Union	Hunter	Union
79GE-1279	0-10'	10	0.026	0.030	none	-
1280	10-20'	10	0.016	-	0.18	-
1281	20-30'	10	0.010	0.020	none	-
1282	30-40'	10	trace	-	none	-
1283	40-50'	10	trace	0.005	none	-
1284	50-60'	10	0.010	0.005	none	-
1285	60-70'	10	0.010	0.005	none	-
1286	70-80'	10	0.012	0.010	0.02	-
1287	80-90'	10	0.020	0.015	none	-
1288	90-100'	10	0.010	0.015	none	-
1289	100-110'	10	trace	-	none	-
1290	110-120'	10	0.010	-	none	-
1291	120-130'	10	0.010	0.020	none	-
1292	130-140'	10	trace	-	none	-
1293	140-150'	10	0.010	0.030	0.13	-
1294	150-160'	10	0.010	0.010	none	-
1295	160-170'	10	0.012	0.010	none	-
1296	170-180'	10	0.010	-	none	-
1297	180-190'	10	trace	0.010	none	-
1298	190-200'	10	-	0.005	-	-
1299	200-210'	10	trace	-	none	-
1300	210-220'	10	trace	-	0.66	-
1301	220-230'	10	0.010	-	none	-
	T.D.					

ASSAY LOG

Gilt Edge Project
Lawrence County, South Dakota

RDH 79-GLE-173

Sample No.	Interval	Ft.	Au Oz/ton		Ag Oz/ton	
			Hunter	Union	Hunter	Union
79GE-1132	0-10'	10	0.058	-	0.23	-
1133	10-20'	10	0.018	-	0.40	-
1134	20-30'	10	0.084	-	0.46	-
1135	30-40'	10	0.024	0.015	none	-
1136	40-50'	10	0.012	0.010	none	-
1137	50-60'	10	trace	-	0.02	-
1138	60-70'	10	trace	-	none	-
1139	70-80'	10	trace	-	0.08	-
1140	80-90'	10	0.012	-	none	-
1141	90-100'	10	trace	-	none	-
1142	100-110'	10	trace	-	none	-
1143	110-120'	10	trace	-	0.16	-
1144	120-130'	10	0.010	0.010	none	-
1145	130-140'	10	trace	-	none	-
1146	140-150'	10	trace	-	none	-
1147	150-160'	10	trace	-	2.02	-
1148	160-710'	10	trace	-	0.28	-
1149	170-180'	10	trace	-	-	-
	T.D.					

ASSAY LOG

Gilt Edge Project
Lawrence County, South Dakota

RDH 79-GLE-174

Sample No.	Interval	Ft.	Au Oz/ton		Ag Oz/ton	
			Hunter	Union	Hunter	Union
79GE-1252	0-10'	10	trace	-	0.06	-
1253	10-20'	10	trace	-	none	-
1254	20-30'	10	trace	-	none	-
1255	30-40'	10	trace	-	none	-
1256	40-50'	10	trace	-	none	-
1257	50-60'	10	0.014	0.010	none	-
1258	60-70'	10	trace	-	none	-
1259	70-80'	10	none	-	none	-
1260	80-90'	10	none	-	none	-
1261	90-100'	10	trace	-	none	-
1262	100-110'	10	trace	-	none	-
1263	110-120'	10	trace	-	0.18	-
1264	120-130'	10	trace	-	0.38	-
1265	130-140'	10	none	-	none	-
1266	140-150'	10	trace	-	none	-
1267	150-160'	10	trace	-	none	-
1268	160-170'	10	trace	-	none	-
1269	170-180'	10	trace	-	none	-
1270	180-190'	10	trace	-	none	-
1271	190-200'	10	none	-	none	-
1272	200-210'	10	trace	-	none	-
1273	210-220'	10	none	-	none	-
1274	220-230'	10	trace	-	none	-
1275	230-240'	10	none	-	none	-
1276	240-250'	10	trace	-	none	-
1277	250-260'	10	trace	-	none	-
1278	260-270'	10	trace	-	0.02	-
	T.D.					

ASSAY LOG

Gilt Edge Project
Lawrence County, South Dakota

RDH 79-GLE-175

Sample No.	Interval	Ft.	Au Oz/ton		Ag Oz/ton	
			Hunter	Union	Hunter	Union
79GE-1150	0-10'	10	0.010	-	none	-
1151	10-20'	10	0.012	0.010	none	-
1152	20-30'	10	0.010	0.010	none	-
1153	30-40'	10	0.054	0.040	0.37	-
1154	40-50'	10	0.026	0.040	0.3	-
1155	50-60'	10	0.018	0.030	0.16	-
1156	60-70'	10	0.036	0.030	none	-
1157	70-80'	10	0.036	0.030	none	-
1158	80-90'	10	0.012	0.010	none	-
1159	90-100'	10	trace	-	none	-
1160	100-110'	10	0.010	-	none	-
1161	110-120'	10	0.012	0.010	none	-
1162	120-130'	10	0.010	-	0.03	-
1163	130-140'	10	trace	-	none	-
1164	140-150'	10	none	-	none	-
1165	150-160'	10	0.016	0.015	none	-
1166	160-170'	10	trace	-	none	-
1167	170-180'	10	trace	-	none	-
1168	180-190'	10	trace	-	none	-
1169	190-200'	10	trace	-	none	-
1170	200-210'	10	0.010	0.010	none	-
1171	210-220'	10	trace	-	-	-
1172	220-230'	10	trace	-	none	-
1173	230-240'	10	trace	-	none	-
1174	240-250'	10	trace	-	none	-
1175	250-260'	10	none	-	none	-
1176	260-270'	10	trace	-	none	-

T.D.

ASSAY LOG

Gilt Edge Project
Lawrence County, South Dakota

RDH 79-GLE-176

Sample No.	Interval	Ft.	Au Oz/ton		Ag Oz/ton	
			Hunter	Union	Hunter	Union
79GE-1202	0-10'	10	0.010	0.010	0.1	-
1203	10-20'	10	0.010	0.010	0.1	-
1204	20-30'	10	0.010	0.010	0.1	-
1205	30-40'	10	0.010	0.010	0.1	-
1206	40-50'	10	0.022	0.010	none	-
1207	50-60'	10	0.016	0.010	none	-
1208	60-70'	10	0.018	0.010	0.14	-
1209	70-80'	10	0.014	0.010	none	-
1210	80-90'	10	0.018	0.010	none	-
1211	90-100'	10	0.016	0.010	none	-
1212	100-110'	10	0.014	0.010	none	-
1213	110-120'	10	0.018	0.010	0.02	-
1214	120-130'	10	0.016	0.010	none	-
1215	130-140'	10	0.014	0.010	none	-
1216	140-150'	10	trace	0.010	none	-
1217	150-160'	10	0.010	0.010	0.13	-
1218	160-170'	10	trace	-	none	-
1219	170-180'	10	trace	-	none	-
1220	180-190'	10	trace	-	none	-
1221	190-200'	10	trace	-	none	-
1222	200-210'	10	trace	-	none	-
1223	210-220'	10	0.010	0.010	none	-
1224	220-230'	10	0.018	0.010	none	-
1225	230-240'	10	0.010	0.010	none	-
1226	240-250'	10	0.012	0.010	none	-
	T.D.					

ASSAY LOG

Gilt Edge Project
Lawrence County, South Dakota

RDH 79-GLE-177

Sample No.	Interval	Ft.	Au Oz/ton		Ag Oz/ton	
			Hunter	Union	Hunter	Union
79GE-1177	0-10'	10	none	-	none	-
1178	10-20'	10	none	-	none	-
1179	20-30'	10	trace	-	none	-
1180	30-40'	10	trace	-	none	-
1181	40-50'	10	trace	-	none	-
1182	50-60'	10	trace	-	0.04	-
1183	60-70'	10	trace	-	0.02	-
1184	70-80'	10	0.010	0.010	none	-
1185	80-90'	10	-	-	-	-
1186	90-100'	10	0.012	0.010	0.07	-
1187	100-110'	10	0.010	0.010	none	-
1188	110-120'	10	0.024	0.010	none	-
1189	120-130'	10	0.062	0.050	none	-
1190	130-140'	10	0.070	0.050	0.65	-
1191	140-150'	10	0.068	0.050	0.53	-
1192	150-160'	10	0.034	0.010	0.41	-
1193	160-170'	10	trace	0.010	none	-
1194	170-180'	10	0.022	0.010	none	-
1195	180-190'	10	0.030	0.010	none	-
1196	190-200'	10	trace	-	none	-
1197	200-210'	10	trace	-	0.08	-
1198	210-220'	10	trace	-	none	-
1199	220-230'	10	trace	-	none	-
1200	230-240'	10	trace	0.010	none	-
1201	240-250'	10	trace	-	0.08	-
	T.D.					

ASSAY LOG-

Gilt Edge Project
Lawrence County, South Dakota

RDH 79-GLE-178

Sample No.	Interval	Ft.	Au Oz/ton		Ag Oz/ton	
			Hunter	Union	Hunter	Union
79GE-1445	0-10'	10	0.022	0.020	none	-
1446	10-20'	10	trace	0.010	none	-
1447	20-30'	10	0.030	0.010	0.11	-
1448	30-40'	10	0.024	0.010	0.16	-
1449	40-50'	10	0.038	0.020	none	-
1450	50-60'	10	0.034	0.020	none	-
1451	60-70'	10	0.020	0.010	none	-
1452	70-80'	10	0.016	0.010	none	-
1453	80-90'	10	0.012	0.020	none	-
1454	90-100'	10	trace	0.010	0.24	-
1455	100-110'	10	0.010	0.010	0.03	-
1456	110-120'	10	0.012	0.010	none	-
1457	120-130'	10	0.012	0.010	none	-
1458	130-140'	10	trace	0.010	none	-
1459	140-150'	10	0.010	0.010	none	-
1460	150-160'	10	0.010	0.010	none	-
1461	160-170'	10	0.020	0.010	none	-
1462	170-180'	10	-	0.010	-	-
1463	180-190'	10	0.010	0.060	none	-
1464	190-200'	10	0.010	0.010	none	-
1465	200-210'	10	0.016	0.010	none	-
1466	210-220'	10	0.012	0.015	none	-
1467	220-230'	10	trace	-	none	-
1468	230-240'	10	trace	-	0.18	-
1469	240-250'	10	0.016	0.010	0.02	-
	T.D.					

ASSAY LOG

Gilt Edge Project
Lawrence County, South Dakota

RDH 79-GLE-179

Sample No.	Interval	Ft.	Au Oz/ton		Ag Oz/ton	
			Hunter	Union	Hunter	Union
79GE-1470	0-10'	10	trace	0.010	0.12	-
1471	10-20'	10	0.014	0.010	0.11	-
1472	20-30'	10	0.018	0.010	0.74	-
1473	30-40'	10	0.016	0.010	0.10	-
1474	40-50'	10	0.020	0.010	0.34	-
1475	50-60'	10	0.046	0.030	0.65	-
1476	60-70'	10	0.032	0.040	0.17	-
1477	70-80'	10	0.062	0.040	none	-
1478	80-90'	10	0.068	0.050	none	-
1479	90-100'	10	0.068(A)	0.050	none	-
			0.060(B)	0.050	none	-
1480	100-110'	10	0.048	0.050	none	-
1481	110-120'	10	0.028	0.050	none	-
1482	120-130'	10	0.058	0.060	none	-
1483	130-140'	10	0.050	0.040	none	-
1484	140-150'	10	0.058	0.040	0.46	-
1485	150-160'	10	0.072	0.060	none	-
1486	160-170'	10	0.060	0.050	none	-
1487	170-180'	10	0.042	0.050	0.88	-
1488	180-190'	10	0.040	0.030	0.26	-
1489	190-200'	10	0.016	0.010	none	-
1490	200-210'	10	trace	0.010	0.10	-
1491	210-220'	10	0.014	0.015	0.09	-
1492	220-230'	10	trace	-	0.06	-
1493	230-240'	10	trace	-	0.16	-
1494	240-250'	10	trace	-	none	-
	T.D.					

ASSAY LOG

Gilt Edge Project
Lawrence County, South Dakota

RDH 79-GLE-180

Sample No.	Interval	Ft.	Au Oz/ton		Ag Oz/ton	
			Hunter	Union	Hunter	Union
79GE-756	0-10'	10	-	-	-	-
757	10-20'	10	0.012	0.010	none	none
758	20-30'	10	-	-	-	-
759	30-40'	10	trace	-	0.16	-
760	40-50'	10	trace	0.015	0.16	none
761	50-60'	10	0.010	0.010	0.1	0.1
762	60-70'	10	trace	-	none	-
763	70-80'	10	trace	-	none	-
764	80-90'	10	trace	-	none	-
765	90-100'	10	trace	-	none	-
766	100-110'	10	-	0.010	-	none
767	110-120'	10	trace	-	none	-
768	120-130'	10	-	0.010	-	none
769	130-140'	10	trace	-	0.22	-
770	140-150'	10	trace	-	0.04	-
771	150-160'	10	trace	-	0.24	-
772	160-170'	10	trace	-	0.10	-
773	170-180'	10	trace	-	none	-
774	180-190'	10	trace	-	none	-
775	190-200'	10	trace	-	0.22	-
776	200-210'	10	0.010	0.010	0.05	none
777	210-220'	10	-	-	-	-
778	220-230'	10	0.012	-	0.17	-
779	230-240'	10	trace	0.010	none	none
780	240-250'	10	0.010	0.010	0.07	none
	T.D.					

ASSAY LOG

Gilt Edge Project
Lawrence County, South Dakota

RDH 79-GLE-181

Sample No.	Interval	Ft.	Au Oz/ton		Ag Oz/ton	
			Hunter	Union	Hunter	Union
79GE-1495	0-10'	10	0.010	0.050	0.06	-
1496	10-20'	10	0.018	0.030	0.16	-
1497	20-30'	10	0.010	0.030	none	-
1498	30-40'	10	-	0.010	-	-
1499	40-50'	10	trace	0.010	0.04	-
1500	50-60'	10	trace	-	0.24	-
1501	60-70'	10	0.036	0.020	0.04	-
1502	70-80'	10	0.018	0.020	none	-
1503	80-90'	10	0.012	0.010	0.03	-
1504	90-100'	10	0.010	0.010	none	-
1505	100-110'	10	trace	0.010	0.02	-
1506	110-120'	10	0.010	0.020	0.03	-
1507	120-130'	10	0.014	0.020	0.05	-
1508	130-140'	10	0.016	0.060	none	-
1509	140-150'	10	trace	-	0.06	-
1510	150-160'	10	-	0.015(A)	-	-
			-	0.005(B)	-	-
1511	160-170'	10	trace	-	none	-
1512	170-180'	10	0.010	0.005	0.17	-
1513	180-190'	10	0.014	0.010	0.25	-
1514	190-200'	10	0.020	0.020	none	-
1515	200-210'	10	0.040	0.040	none	-
1516	210-220'	10	0.020	0.020	none	-
1517	220-230'	10	0.014	0.010	none	-
1518	230-240'	10	0.026	none	none	-
1519	240-250'	10	0.096	0.110	none	-
	T.D.					

ASSAY LOG

Gilt Edge Project
Lawrence County, South Dakota

RDH 79-GLE-182

Sample No.	Interval	Ft.	Au Oz/ton		Ag Oz/ton	
			Hunter	Union	Hunter	Union
79GE-781	0-10'	10	trace	0.010	none	0.1
782	10-20'	10	0.016	0.010	0.06	none
783	20-30'	10	0.024	0.010	none	0.1
784	30-40'	10	0.016	0.010	0.14	none
785	40-50'	10	0.010	0.010	0.07	0.1
786	50-60'	10	0.022	0.010	none	none
787	60-70'	10	trace	-	none	-
788	70-80'	10	trace	-	none	-
789	80-90'	10	0.026	0.010	none	none
790	90-100'	10	0.010	0.010	0.07	none
791	100-110'	10	0.016	0.010	0.24	0.2
792	110-120'	10	trace	-	none	-
793	120-130'	10	trace	-	none	-
794	130-140'	10	-	0.010	-	none
795	140-150'	10	trace	-	0.10	-
796	150-160'	10	-	0.005	-	none
797	160-170'	10	trace	-	0.28	-
798	170-180'	10	0.010	trace	0.25	none
799	180-190'	10	trace	-	0.14	-
800	190-200'	10	trace	trace	none	none
901	200-210'	10	none	-	none	-
902	210-220'	10	trace	-	none	-
903	220-230'	10	trace	-	none	-
904	230-240'	10	none	-	none	-
905	240-250'	10	trace	-	none	-
	T.D.					

ASSAY LOG

Gilt Edge Project
Lawrence County, South Dakota

RDH 79-GLE-183

Sample No.	Interval	Ft.	Au Oz/ton		Ag Oz/ton	
			Hunter	Union	Hunter	Union
79GE-1520	0-10'	10	-	-	-	-
1521	10-20'	10	-	-	-	-
1522	20-30'	10	-	-	-	-
1523	30-40'	10	-	-	-	-
1524	40-50'	10	0.010	0.010	none	-
1525	50-60'	10	none	-	none	-
1526	60-70'	10	trace	-	none	-
1527	70-80'	10	0.010	0.010	none	-
1528	80-90'	10	trace	-	none	-
1529	90-100'	10	0.016	0.090	none	-
1530	100-110'	10	0.020	0.040	none	-
1531	110-120'	10	0.010	0.010	none	-
1532	120-130'	10	trace	-	0.04	-
1533	130-140'	10	trace	-	none	-
1534	140-150'	10	0.010	0.010	none	-
1535	150-160'	10	trace	-	none	-
1536	160-170'	10	trace	-	none	-
1537	170-180'	10	trace	-	none	-
1538	180-190'	10	trace	-	none	-
1539	190-200'	10	trace	-	none	-
1540	200-210'	10	trace	-	none	-
1541	210-220'	10	trace	-	none	-
1542	220-230'	10	trace	-	none	-
1543	230-240'	10	none	-	none	-
1544	240-250'	10	0.010	0.010	none	-
	T.D.					

ASSAY LOG

Gilt Edge Project
Lawrence County, South Dakota

RDH 79-GLE-184

Sample No.	Interval	Ft.	Au Oz/ton		Ag Oz/ton	
			Hunter	Union	Hunter	Union
79GE-906	0-10'	10	0.018	0.010	0.04	none
907	10-20'	10	0.014	0.010	0.10	none
908	20-30'	10	0.016	0.020	0.10	none
909	30-40'	10	-	-	-	-
	T.D.					

ASSAY LOG

Gilt Edge Project
Lawrence County, South Dakota

RDH 79-GLE-185

Sample No.	Interval	Ft.	Au Oz/ton		Ag Oz/ton	
			Hunter	Union	Hunter	Union
79GE-1545	0-10'	10	trace	0.010	none	-
1546	10-20'	10	trace	0.010	none	-
1547	20-30'	10	trace	0.010	none	-
1548	30-40'	10	0.010	0.010	none	-
1549	40-50'	10	0.010	0.010	none	-
1550	50-60'	10	0.020	0.010	0.82	-
1551	60-70'	10	0.054	0.030	none	-
1552	70-80'	10	0.014	0.005	none	-
1553	80-90'	10	0.010	0.010	0.07	-
1554	90-100'	10	trace	0.010	0.14	-
1555	100-110'	10	0.010	0.010	0.23	-
1556	110-120'	10	trace	-	0.14	-
1557	120-130'	10	trace	-	none	-
1558	130-140'	10	trace	-	none	-
1559	140-150'	10	trace	-	none	-
1560	150-160'	10	trace(A)	-	none	-
			trace(B)	-	0.04	-
1561	160-170'	10	trace	-	none	-
1562	170-180'	10	0.012	0.010	none	-
1563	180-190'	10	trace	none	none	-
1564	190-200'	10	0.010	trace	0.15	-
1565	200-210'	10	trace	-	0.12	-
1566	210-220'	10	trace	-	none	-
1567	220-230'	10	-	0.010	-	-
1568	230-240'	10	-	trace	-	-
1569	240-250'	10	trace	-	none	-
	T.D.					

ASSAY LOG

Gilt Edge Project
Lawrence County, South Dakota

RDH 79-GLE-186

Sample No.	Interval	Ft.	Au Oz/ton		Ag Oz/ton	
			Hunter	Union	Hunter	Union
79GE-910	0-10'	10	0.034	0.030	0.63	none
911	10-20'	10	trace	-	none	-
912	20-30'	10	trace	-	0.32	-
913	30-40'	10	trace	-	0.10	-
914	40-50'	10	0.012	0.010	none	none
915	50-60'	10	0.018	0.010	0.02	none
916	60-70'	10	0.014	0.010	none	none
917	70-80'	10	0.010	0.010	none	0.1
918	80-90'	10	0.010	0.010	none	0.1
919	90-100'	10	0.010	0.010	none	none
920	100-110'	10	trace	0.010	0.08	none
921	110-120'	10	0.014	0.010	0.11	none
922	120-130'	10	trace	0.010	none	none
923	130-140'	10	0.012	0.010	none	0.1
924	140-150'	10	0.010	0.005	0.03	none
925	150-160'	10	0.010	0.010	none	none
926	160-170'	10	0.010	0.010	0.21	none
927	170-180'	10	trace	0.010	none	none
928	180-190'	10	0.014	0.010	0.25	none
929	190-200'	10	none	0.005	none	none
930	200-210'	10	0.010	0.005	0.01	none
931	210-220'	10	0.014	0.005	none	none
932	220-230'	10	0.010	0.005	none	none
933	230-240'	10	0.010	0.005	0.05	none
934	240-250'	10	0.014	0.010	0.05	none
	T.D.					

ASSAY LOG

Gilt Edge Project
Lawrence County, South Dakota

RDH 79-GLE-187

Sample No.	Interval	Ft.	Au Oz/ton		Ag Oz/ton	
			Hunter	Union	Hunter	Union
79GE-1570	0-10'	10	0.014		0.31	
1571	10-20'	10	0.012		0.17	
1572	20-30'	10	0.014		0.07	
1573	30-40'	10	trace		0.02	
1574	40-50'	10	0.010		0.05	
1575	50-60'	10	0.022		none	
1576	60-70'	10	0.010		none	
1577	70-80'	10	trace		none	
1578	80-90'	10	trace		none	
1579	90-100'	10	0.010		none	
1580	100-110'	10	0.012		none	
1581	110-120'	10	0.010		0.09	
1582	120-130'	10	trace		0.30	
1583	130-140'	10	0.010		0.45	
1584	140-150'	10	trace		0.36	
1585	150-160'	10	trace		none	
1586	160-170'	10	trace		none	
1587	170-180'	10	0.012		0.15	
1588	180-190'	10	trace		0.48	
1589	190-200'	10	none		0.66	
1590	200-210'	10	0.010		0.37	
1591	210-220'	10	trace		0.14	
1592	220-230'	10	trace		none	
1593	230-240'	10	trace		none	
1594	240-250'	10	0.006		none	
	T.D.					

ASSAY LOG

Gilt Edge Project
Lawrence County, South Dakota

RDH 79-GLE-188

Sample No.	Interval	Ft.	Au Oz/ton		Ag Oz/ton	
			Hunter	Union	Hunter	Union
79GE-935	0-10'	10	0.022	0.020	0.18	0.1
936	10-20'	10	0.022	0.020	0.18	0.1
937	20-30'	10	trace	-	0.08	-
938	30-40'	10	0.030	0.020	none	0.1
939	40-50'	10	0.010	0.010	0.09	none
940	50-60'	10	trace	0.010	none	none
941	60-70'	10	0.010	0.010	0.23	none
942	70-80'	10	trace	-	none	-
943	80-90'	10	trace	-	0.24	-
944	90-100'	10	trace	-	none	-
945	100-110'	10	0.010	0.010	none	none
946	110-120'	10	trace	-	none	-
947	120-130'	10	0.010	0.010	none	none
948	130-140'	10	none	-	0.04	-
949	140-150'	10	0.010	0.010	0.07	none
950	150-160'	10	0.014	0.010	0.91	0.1
951	160-170'	10	0.010	0.010	none	0.1
952	170-180'	10	-	-	-	-
953	180-190'	10	-	-	-	-
954	190-200'	10	-	-	-	-
955	200-210'	10	-	-	-	-
956	210-220'	10	-	-	-	-
957	220-230'	10	-	-	-	-
958	230-240'	10	-	-	-	-
959	240-250'	10	-	-	-	-
	T.D.					

Heavy yellow stock

APPENDIX E

Geological Logs for Cyprus Rotary Drill Holes

79-GLE-125 through 79-GLE-188

GILT EDGE PROJECT
Lawrence County, South Dakota

SUMMARY LOG
Rotary Drill Hole 79-GLE-125

Interval	Description
0'- 60'	Brown FeOx stained medium grained quartz latite. Rock contains 2-4% disseminated pyrite. Minor jarosite on some fractures.
60'- 80'	Light brown moderately clay altered latite or dacite. Rock contains 1-2% disseminated, oxidized pyrite.
80'-170'	Same as 0-60' only moderately clay altered in some intervals.
170'-250'	Same as 80-170' with pyrite slightly oxidized to unoxidized.

GILT EDGE PROJECT
Lawrence County, South Dakota

SUMMARY LOG
Rotary Drill Hole 79-GLE-126

Interval	Description
0'- 70'	Light brown partially clay altered coarse grained quartz latite (?) porphyry. Rock appears to have contained 1-3% pyrite both disseminated and in clots. Sulfide is almost totally oxidized.
70'-180'	White partially clay altered medium grained latite with decreasing quartz content and fresh pyrite, 1-3%, in clots and as disseminated cubes.
180'-250'	Gray coarse grained latite porphyry with 2-5% pyrite partially oxidized and FeOx staining on some fractures. Rock appears to be slightly silica flooded.

GILT EDGE PROJECT
Lawrence County, South Dakota

SUMMARY LOG
Rotary Drill Hole 79-GLE-127

Interval	Description
0'- 80'	Light brown to brown FeOx stained medium grained latite. Some fragments are coated with brown clay. Rock contained 2-5% pyrite both disseminated and coating fractures. Rock is totally oxidized.
80'-160'	White to light brown partially oxidized medium grained latite. Rock contains 1-3% pyrite generally disseminated. A few pyrite grains are coated with black CuOx.
160'-250'	Dark gray medium to fine grained latite(?) with 1-3% disseminated pyrite and trace amounts of dark sulfide (probably sphalerite). A few fragments of (pЄ) biotite schist at 240-250'.

GILT EDGE PROJECT
Lawrence County, South Dakota

SUMMARY LOG
Rotary Drill Hole 79-GLE-128

Interval	Description
0'- 60'	Light red brown, partially clay altered, coarse grained latite (?) porphyry. Rock contains 1-2% disseminated pyrite which is partially oxidized to totally oxidized.
60'- 80'	Same as 0-60' with increasing silicification.
80'-160'	White to tan partially clay altered coarse grained latite (?) porphyry. Rock contains 1-3% disseminated pyrite. A few cubes of pyrite are coated with black CuOx.
160'-170'	Same as 0-80' partially oxidized.
170'-250'	Same as 80-160' with decreasing pyrite content.

GILT EDGE PROJECT
Lawrence County, South Dakota

SUMMARY LOG
Rotary Drill Hole 79-GLE-129

Interval	Description
0'- 30'	Light brown to white clay altered bleached quartz latite (or dacite) with minor fragments of biotite schist (pЄ). Minor FeOx staining on fractures and MnOx on some fractures.
30'-140'	White clay altered quartz latite with minor FeOx staining on some fractures, pyrite which is almost totally oxidized.
140'-250'	Same as 30-140' with increasing silicification and pyrite content (2-5%) K-spar are clay altered and pyrite is almost totally oxidized.

GILT EDGE PROJECT
Lawrence County, South Dakota

SUMMARY LOG
Rotary Drill Hole 79-GLE-130

Interval	Description
0'- 40'	White clay altered quartz latite (?) porphyry with minor FeOx staining on some fractures.
40'- 80'	Light brown to red brown quartz latite porphyry with moderate to intense FeOx staining on fractures. Rock contains 2-5% oxidized pyrite (cast).
80'-140'	Light brown to white coarse-grained quartz dacite with 1-3% disseminated pyrite partially oxidized. Feldspars are partially clay altered.
140'-250'	White clay altered fine-grained quartz latite with 1-2% disseminated pyrite.

GILT EDGE PROJECT
Lawrence County, South Dakota

SUMMARY LOG
Rotary Drill Hole 79-GLE-131

Interval	Description
0'- 50'	Light brown trachyte and clay-trachyte is partly to totally clay altered, 1-3% FeOx (goethite).
50'- 90'	Tan to light orange-brown trachyte(?) moderately clay altered. Trace to 1% disseminated pyrite. Partly to totally oxidized.
90'-110'	Light gray moderately clay altered trachyte with 1-3% disseminated pyrite.
110'-220'	Same as 50-90' with increased FeOx between 190-210'.
220'-230'	Mixed trachyte and pЄ metamorphic rock (primarily mica schist).
230'-250'	Same as 50-90' increased clay alteration.

GILT EDGE PROJECT
Lawrence County, South Dakota

SUMMARY LOG
Rotary Drill Hole 79-GLE-132

Interval	Description
0'- 30'	Tan to light brown moderately clay altered medium grained latite porphyry. Rock appears to have contained approximately 1% pyrite before oxidation.
30'-130'	Red-brown FeOx stained medium grained quartz latite porphyry. Rock contains 2-5% disseminated pyrite, totally ozidized.
130'-160'	Same as 30-130' with only 1-3% oxidized pyrite and less FeOx staining.
160'-250'	Same as 30-130'.

GILT EDGE PROJECT
Lawrence County, South Dakota

SUMMARY LOG
Rotary Drill Hole 79-GLE-133

Interval	Description
0'- 50'	Tan clay altered quartz latite(?) and clay with minor FeOx on fractures.
50'-130'	Light gray clay altered quartz latite porphyry with 2-3% fine grained disseminated pyrite. Decreasing pyrite below 70'.
130'-150'	Tan highly clay altered quartz latite(?) with FeOx on fractures.
150'-170'	Same as 50-130'.
170'-180'	Brown oxidized quartz latite. Original rock contained 3-5% pyrite now totally oxidized.
180'-250'	Light brown to tan partially to totally oxidized quartz latite porphyry which originally contained 1-2% disseminated pyrite. 230-240' contains minor fragments of metamorphic rock (pЄ mica schist?).

GILT EDGE PROJECT
Lawrence County, South Dakota

SUMMARY LOG
Rotary Drill Hole 79-GLE-134

Interval	Description
0'- 40'	White to tan moderately clay altered medium grained quartz latite with minor FeOx staining on fractures.
40'- 80'	Light brown clay altered quartz latite porphyry with moderate to intense FeOx staining on fractures. Many fractures coated with clay. Rock contains 3-5% disseminated pyrite, totally oxidized.
80'-130'	Same as 40-80' with decreased oxidized pyrite, less than 1%.
130'-190'	Same as 40-80'.

GILT EDGE PROJECT
Lawrence County, South Dakota

SUMMARY LOG
Rotary Drill Hole 79-GLE-135

Interval	Description
0'- 80'	Light red-brown medium grained quartz latite porphyry with moderate to intense clay alteration of the feldspars. Rock contained 1-3% pyrite which is generally oxidized.
80'- 90'	Same as 0-80' only slightly oxidized.
90'-170'	Same as 0-80' with less clay alteration of the feldspars.
170'-250'	Light gray medium to coarse grained latite (or dacite) porphyry - moderately clay altered. Contains 1-3% pyrite disseminated throughout the chips.

GILT EDGE PROJECT,
Lawrence County, South Dakota

SUMMARY LOG
Rotary Drill Hole 79-GLE-136

Interval	Description
0'-130'	Light brown moderately clay altered coarse grained latite porphyry with FeOx staining on fractures. Rock contains 2-5% pyrite both disseminated and as clots. Sulfide is totally oxidized.
130'-170'	Same as 0-130' only strongly FeOx stained and increase in oxidized pyrite content 3-7%.
170'-250'	Same as 0-130'.

GILT EDGE PROJECT
Lawrence County, South Dakota

SUMMARY LOG
Rotary Drill Hole 79-GLE-137

Interval	Description
0'- 30'	Light brown quartz latite porphyry (quartz dacite) with abundant FeOx on fractures and staining rock. Rock contained approximately 1% disseminated pyrite before oxidation.
30'- 80'	White to tan latite porphyry with 1% disseminated pyrite clay altered feldspars stained pink in some cases. Minor green Cu staining around some pyrite.
80'-100'	Brown FeOx stained and clay altered quartz latite porphyry with 1% oxidized pyrite casts.
100'-120'	Same as 30-80' with increased quartz "eyes" (quartz latite or quartz dacite).
120'-130'	Same as above only oxidized.
130'-200'	White clay altered quartz latite porphyry 1% disseminated pyrite.
200'-250'	Light brown oxidized quartz latite porphyry with 2% partially to totally oxidized pyrite.

GILT EDGE PROJECT
Lawrence County, South Dakota

SUMMARY LOG
Rotary Drill Hole 79-GLE-138

Interval	Description
0'- 60'	White to tan medium grained latite with 1-3% disseminated and oxidized pyrite.
60'- 70'	Same as 0-60' with increased FeOx staining.
70'-160'	Medium to coarse grained tan to white latite porphyry which contains approximately 1% disseminated pyrite - totally oxidized.
160'-170'	Intensely FeOx stained latite porphyry. Rock contains 2-5% pyrite totally oxidized.
170'-210'	Same as 70-160'.

GILT EDGE PROJECT
Lawrence County, South Dakota

SUMMARY LOG
Rotary Drill Hole 79-GLE-139

Interval	Description
0'- 20'	Light to white clay altered medium grained latite porphyry. Rock appears to have contained approximately 1% disseminated pyrite.
20'- 50'	Brown FeOx stained latite porphyry and minor gossan material. Rock probably contains 2-7% pyrite both disseminated and in clots. Sulfides are totally oxidized.
50'- 70'	Same as 0-20' only fragments of black tourmaline(?) rich rock.
70'-210'	Same as 20-50' with slightly less sulfide or only partially oxidized sulfides.
210'-230'	Light gray unoxidized coarse grained latite porphyry with 1-3% disseminated pyrite.
230'-250'	Same as 70-210'.

GILT EDGE PROJECT
Lawrence County, South Dakota

SUMMARY LOG
Rotary Drill Hole 79-GLE-140

Interval	Description
0'-230'	Red-brown to pink clay altered quartz latite porphyry, coated with pink clay. Trace amounts of pyrite, minor MnOx on some fractures.
230'-250'	Brown FeOx stained quartz latite with 1-2% oxidized pyrite casts.

GILT EDGE PROJECT
Lawrence County, South Dakota

SUMMARY LOG
Rotary Drill Hole 79-GLE-141

Interval	Description
0'- 60'	Red-brown FeOx stained coarse grained quartz latite porphyry - clay altered in part. Rock at one time contained 1-3% disseminated pyrite.
60'-100'	Same as above with decreasing FeOx on fractures. K-spars are totally clay altered.
100'-140'	Mixed oxidized and unoxidized coarse grained quartz latite(?), rock contains 1-3% disseminated pyrite.
140'-230'	Light gray coarse grained quartz latite porphyry with 2-4% disseminated pyrite, feldspars are slightly clay altered.
230'-300'	Light gray trachyte(?) porphyry slightly clay altered with 1% disseminated pyrite.

GILT EDGE PROJECT
Lawrence County, South Dakota

SUMMARY LOG
Rotary Drill Hole 79-GLE-142

Interval	Description
0'- 70'	White (bleached) highly clay altered trachyte porphyry. Coarse grained with K-spar phenocrysts totally clay altered.
70'-120'	Light reddish to pink clay altered quartz latite porphyry(?). Oxidized pyrite in trace amounts disseminated throughout the rock.
120'-130'	Mixture of FeOx stained clay (red) and clay altered quartz latite.
130'-250'	Light tan coarse grained porphyritic quartz latite(?) moderately to strongly clay altered.

GILT EDGE PROJECT
Lawrence County, South Dakota

SUMMARY LOG
Rotary Drill Hole 79-GLE-143

Interval	Description
0'-250'	Light red-brown to yellow-brown medium to coarse grained quartz latite porphyry moderately FeOx stained. Intervals 130-140' and 210-220' are unoxidized. Rock contains 2-5% disseminated pyrite which is generally oxidized. 80-90' contains increased FeOx on fractures (jarosite).

GILT EDGE PROJECT
Lawrence County, South Dakota

SUMMARY LOG
Rotary Drill Hole 79-GLE-144

Interval	Description
0'-110'	Tan to light red-brown moderately clay altered quartz latite porphyry. Rock probably contained 1-2% disseminated pyrite but is now totally oxidized.
110'-120'	Same as 0-110' except unoxidized.
120'-230'	Same as 0-110' with additional quartz eyes (quartz latite porphyry). The interval from 200-220' increases FeOx staining and brown clay coating chips.
230'-270'	Gray medium grained latite porphyry with 1-3% disseminated pyrite. 240-250' increased pyrite in clots.

GILT EDGE PROJECT
Lawrence County, South Dakota

SUMMARY LOG
Rotary Drill Hole 79-GLE-145

Interval	Description
0'-100'	Light yellow-brown moderately clay altered medium grained quartz latite porphyry. Rock contains 1-3% disseminated pyrite, totally oxidized.
100'	Hit water, stopped hole. Dried hole continued.
100'-190'	Brown FeOx stained moderately clay altered medium grained latite porphyry. Rock contains 2-5% disseminated pyrite generally oxidized.
190'-210'	Same as 100-190' with less pyrite (1-2%).
210'-250'	Same as 100-190'.
250'-350'	Gray medium to coarse grained latite porphyry with 1-4% disseminated pyrite (fresh). Mildly silicified and K-spars are slightly clay altered.

GILT EDGE PROJECT
Lawrence County, South Dakota

SUMMARY LOG
Rotary Drill Hole 79-GLE-146

Interval	Description
0'- 20'	No recovery (clay).
20'-100'	Light tan coarse grained quartz latite porphyry with minor FeOx staining on some fractures. Rock appears to contain approximately 1% disseminated pyrite, totally oxidized. MnOx on some fractures. Rock is moderately clay altered.
100'-250'	Same as 20-100' with only partially oxidized sulfides. Rock is moderately clay altered. Pyrite content is slightly above 20-100' interval, 1-2% disseminated.

GILT EDGE PROJECT
Lawrence County, South Dakota

SUMMARY LOG
Rotary Drill Hole 79-GLE-147

Interval	Description
0'- 110'	Light tan to white medium grained quartz latite with only minor FeOx staining on fractures. Rock probably contains less than 1% oxidized pyrite and is moderately clay altered.
110'	T.D. - lost hole (water)

GILT EDGE PROJECT
Lawrence County, South Dakota

SUMMARY LOG
Rotary Drill Hole 79-GLE-148

Interval	Description
0'- 60'	Light brown moderately clay altered medium grained quartz trachyte. FeOx stained on some fractures. Rock contained 1-3% pyrite which is generally oxidized.
60'-170'	Same as 0-60' with disseminated black sulfide(?) or CuOx in fine grains. Rock is moderately to intensely clay altered.
170'-250'	Tan medium grained moderately clay altered quartz latite porphyry. Rock contained approximately 1% oxidized pyrite.

GILT EDGE PROJECT
Lawrence County, South Dakota

SUMMARY LOG
Rotary Drill Hole 79-GLE-149

Interval	Description
0'- 20'	Red-brown FeOx stained, silicified quartz latite porphyry which contained 2-3% disseminated pyrite which is oxidized.
20'- 50'	Light brown silicified medium grained quartz latite with less FeOx staining than above interval.
50'-120'	Red-brown FeOx stained, silicified quartz latite porphyry. Rock contained 3-5% disseminated pyrite which is totally oxidized.
120'-140'	Same as 50-120' except pyrite ore is unoxidized making rock appear white. K-spars are moderately clay altered.
140'-160'	Same as 50-120'.
160'-250'	Light gray medium grained latite with 2-5% disseminated pyrite and minor fine grained black sulfide(?).

GILT EDGE PROJECT
Lawrence County, South Dakota

SUMMARY LOG
Rotary Drill Hole 79-GLE-150

Interval	Description
0'-100'	Tan to white mildly clay altered coarse grained quartz latite (or dacite). Before oxidation rock probably contained less than 1% disseminated pyrite.
100'-170'	Same as 0-100' with mixed fragments totally oxidized and some fresh. Rock contains less than 1% pyrite.
170'-250'	Same as above, only moderately silicified.

GILT EDGE PROJECT
Lawrence County, South Dakota

SUMMARY LOG
Rotary Drill Hole 79-GLE-151

Interval	Description
0'- 60'	White to light red-brown latite porphyry, clay altered feldspars with 1-2% disseminated pyrite totally to partially oxidized.
60'-110'	Brown to red-brown clay altered latite porphyry with FeOx staining on fractures. Rock contained 3-5% disseminated pyrite before oxidation.
110'-170'	White to light brown partially oxidized, clay altered latite or dacite with 1-3% disseminated pyrite - some pyrite cubes coated with black CuOx.
170'-350'	Same as 110-170' only unoxidized. 300-350' slightly silicified.

GILT EDGE PROJECT
Lawrence County, South Dakota

SUMMARY LOG
Rotary Drill Hole 79-GLE-152

Interval	Description
0'- 30'	Mixed fragments of coarse quartz latite porphyry and bleached pЄ mica schist. Fragments coated with light yellow clay.
30'-100'	Bleached pЄ quartz mica schist and quartz latite porphyry with 2-5% pyrite. Minor fragments of quartzite.
100'-120'	Dark gray silicified intrusive rock(?) with 10-15% massive pyrite and vein quartz.
120'-150'	Same as 30-100' except quartz mica schist is not as intensely bleached.
150'-200'	Light gray quartz latite porphyry with 2-5% disseminated pyrite. Minor fragments of pЄ mica schist. 170-180' same except oxidized.

GILT EDGE PROJECT
Lawrence County, South Dakota

SUMMARY LOG
Rotary Drill Hole 79-GLE-153

Interval	Description
0'- 30'	White to light red-brown coarse grained quartz latite(?), rock is moderately clay altered and silicified. Appears to have contained 1-2% disseminated pyrite before it was oxidized.
30'-110'	Red-brown strongly FeOx stained quartz latite porphyry with abundant FeOx on fractures, rock appears to have contained 2-5% disseminated pyrite before oxidation.
110'-300'	Light gray strongly clay altered coarse grained latite porphyry with 2-5% pyrite both disseminated and on fractures. Pyrite cubes are coated with black CuOx in some intervals.

GILT EDGE PROJECT
Lawrence County, South Dakota

SUMMARY LOG
Rotary Drill Hole 79-GLE-154

Interval	Description
0'- 30'	Tan clay coated silicified rhyolite(?) and minor amounts of bleached pЄ metamorphic rock. Rock contains 1-3% pyrite which is partly to totally oxidized.
30'-100'	Gray mixed silicified intrusive rock and pЄ chert with 1-3% disseminated pyrite in both rock types.
100'-130'	Green-gray to black clay and minor fragments of silicified intrusive rock.
130'-150'	Same as 100-130' with increased silicified intrusive rock and less clay. Clay appears to be an alteration product produced by the intrusive in contact with pЄ metamorphic rock.

GILT EDGE PROJECT
Lawrence County, South Dakota

SUMMARY LOG
Rotary Drill Hole 79-GLE-155

Interval	Description
0'-190'	Red-brown FeOx stained and moderately clay altered, fine grained latite(?) with 1-3% disseminated pyrite (oxidized). Chips are coated with light red-brown clay.
190'-250'	Light green-gray fine to medium grained latite with 2-5% disseminated pyrite.

GILT EDGE PROJECT
Lawrence County, South Dakota

SUMMARY LOG
Rotary Drill Hole 79-GLE-156

Interval	Description
0'- 60'	Light brown silicified latite(?) porphyry which is coated in part by clay. Rock contained 2-5% disseminated pyrite before oxidation.
60'- 90'	Same as 0-60' only rock is partially oxidized and contains less pyrite, 1-3%.

GILT EDGE PROJECT
Lawrence County, South Dakota

SUMMARY LOG
Rotary Drill Hole 79-GLE-157

Interval	Description
0'- 40'	Tan clay coated fragments of silicified intrusive(?) rock mixed with bleached fragments of pЄ metamorphic rock.
40'- 90'	Green-gray latite(?) with 1-3% disseminated pyrite and coated in part by clay.
90'-170'	Light gray mixed Tertiary intrusive rock and bleached (pЄ) metamorphic rock with < 1% pyrite.
170'-210'	Dark gray silicified intrusive rock with 2-7% pyrite both disseminated and as clots.

GILT EDGE PROJECT
Lawrence County, South Dakota

SUMMARY LOG
Rotary Drill Hole 79-GLE-158

Interval	Description
0'- 30'	Light brown moderately clay altered coarse grained latite(?) porphyry. Rock is silicified in part and contained 1-3% pyrite which is completely oxidized.
30'- 70'	Mixed quartz latite and (pЄ) schist, 3-5% pyrite mainly in the intrusive rock.
70'-100'	Gray mixed pЄ quartzites and schists and silicified intrusive rock with 3-5% pyrite.
100'-190'.	Dark gray to black quartz mica schist with minor fragments of intrusive rock. Rock contains 1-3% pyrite primarily in the quartz.

GILT EDGE PROJECT
Lawrence County, South Dakota

SUMMARY LOG
Rotary Drill Hole 79-GLE-159

Interval	Description
0'- 20'	Light brown to gray silicified latite (?) partially oxidized with FeOx staining on fractures.
20'- 40'	Gray silicified latite (?) with 2-5% pyrite, both disseminated and in clots. Minor green Cu staining on some fragments.
40'- 60'	Same as 0-20' with tiny quartz fracture filling veinlets.
60'-160'	Same as 20-40' with increased pyrite 4-7%.
160'-200'	Mixed bleached metamorphic rock (pЄ mica schist) and silicified intrusive rock.

GILT EDGE PROJECT
Lawrence County, South Dakota

SUMMARY LOG
Rotary Drill Hole 79-GLE-160

Interval	Description
0'- 10'	Tan clay altered latite(?) which is silicified in part. Rock probably contained approximately 1% pyrite before oxidation.
10'- 40'	Mixed pЄ schists and latite(?) intrusive rock. Intrusive is same as 0-10'.
40'- 80'	Gray pЄ chert and schist with approximately 1% disseminated pyrite. Rock contains minor amounts of intrusive rock.
80'- 90'	Green-gray medium grained Tertiary(?) intrusive rock possibly a latite or dacite with 2-3% disseminated pyrite.
90'-120'	Same as 40-80'.
120'-140'	Same as 80-90' with minor fragments of pЄ metamorphic rocks.
140'-160'	Dark green amphibolite schist with 3-5% pyrite.
160'-200'	Light gray to light brown silicified intrusive rock with 2-5% disseminated pyrite. Rock is FeOx stained at interval 170-180'.

GILT EDGE PROJECT
Lawrence County, South Dakota

SUMMARY LOG
Rotary Drill Hole 79-GLE-161

Interval	Description
0'- 40'	Light brown clay coated, clay altered latite porphyry with FeOx and MnOx staining on fractures.
40'-130'	Light brown to tan clay altered coarse grained quartz latite porphyry with trace amounts of disseminated pyrite, mostly oxidized.
130'-170'	Light gray clay altered quartz latite porphyry. Rock contains less than 1% disseminated pyrite.
170'-210'	Same as 40-130'.
210'-280'	Same as 130-170' with minor fragments with FeOx on fractures.

GILT EDGE PROJECT
Lawrence County, South Dakota

SUMMARY LOG
Rotary Drill Hole 79-GLE-162

Interval	Description
0'- 20'	Gray to brown-gray latite porphyry with 2-5% partly oxidized pyrite.
20'-350'	Gray mildly silicified latite porphyry with 3-5% pyrite both disseminated and in clots. Pyrite slightly tarnished in some intervals. From 240'-260' pyrite is coated with black CuOx.

GILT EDGE PROJECT
Lawrence County, South Dakota

SUMMARY LOG
Rotary Drill Hole 79-GLE-163

Interval	Description
0'- 90'	Light brown to tan silicified latite(?) with 3-5% pyrite totally oxidized. Rock is coated with light brown clay. Moderate FeOx staining on fractures.
90'-160'	Light gray to tan clay altered latite porphyry. Rock contains less than 1% disseminated pyrite.
160'-210'	Gray latite with approximately 1% disseminated pyrite. Rock is only slightly clay altered.
210'-250'	Dark gray (pЄ) amphibolite schist.

GILT EDGE PROJECT
Lawrence County, South Dakota

SUMMARY LOG
Rotary Drill Hole 79-GLE-165

Interval	Description
0'- 40'	Light brown coarse grained latite (?) porphyry with FeOx staining on fractures. Rock appears to have contained 1-3% pyrite before oxidation.
40'- 80'	Gray quartz latite with moderate clay altered feldspars containing 1% disseminated pyrite.
80'- 90'	Dark brown FeOx stained quartz latite (?) with 3-7% oxidized disseminated pyrite.
90'-120'	Same as 0-40', rock is slightly silicified.
120'-300'	Light gray to gray-brown partly oxidized quartz latite (?) porphyry with 2-5% pyrite both disseminated and as clots.

GILT EDGE PROJECT
Lawrence County, South Dakota

SUMMARY LOG
Rotary Drill Hole 79-GLE-166

Interval	Description
0'- 30'	Tan to red-brown silicified quartz latite. Abundant jarosite on fractures. Rock originally contained between 1-3% sulfides.
30'-160'	Light gray highly silicified latite porphyry with 3-7% total sulfides, generally disseminated throughout the rock. Minor fragments of bleached rock with metamorphic textures.
160'-200'	Gray coarse grained porphyritic quartz latite(?) with minor fragments of amphibolite(?) metamorphic rock. Both fine grained disseminated pyrite and coarse pyrite clots. Sulfides are 3-7% of total rock.

GILT EDGE PROJECT
Lawrence County, South Dakota

SUMMARY LOG
Rotary Drill Hole 79-GLE-167

Interval	Description
0'- 10'	Brown FeOx stained medium grained quartz dacite porphyry with 7-9% oxidized pyrite disseminated and along fractures.
10'- 50'	Light brown FeOx stained medium to coarse grained latite porphyry, moderately clay altered. Rock contains 2-5% disseminated pyrite partially to totally oxidized.
50'- 90'	Light gray medium grained quartz latite, moderately clay altered. Rock contains 2-7% fine grained disseminated pyrite coated in part with black CuOx.
90'-100'	Same as 10-50'.
100'-300'	Same as 50-90' with some intervals more intensely clay altered.

GILT EDGE PROJECT
Lawrence County, South Dakota

SUMMARY LOG
Rotary Drill Hole 79-GLE-168

Interval	Description
0'- 20'	Light gray mixed quartz latite and pЄ quartzite (?), both rock highly silicified and contain 3-5% disseminated pyrite which is partially oxidized.
20'- 40'	Same as 0-20' except sulfide is generally unoxidized.
40'- 80'	Dark green to brown quartz mica schist with 1-3% pyrite in hair line veinlets and clots.
80'-180'	Gray partially silicified coarse grained quartz latite (?) with 3-7% pyrite, both disseminated and as clots. Minor fragments of bleached (pЄ) metamorphic rock are seen in the cuttings.

GILT EDGE PROJECT
Lawrence County, South Dakota

SUMMARY LOG
Rotary Drill Hole 79-GLE-169

Interval	Description
0'-150'	Brick red coarse grained quartz latite with quartz eyes (rock appears more like rhyolite). Intense FeOx staining on fractures. Some feldspars replaced with sericite. Rock appears to have contained 3-7% sulfides (pyrite) now totally oxidized.
150'-210'	Same as 0-150' except rock is unoxidized with 2-5% disseminated pyrite coated with black CuOx. Feldspars are partly to totally clay altered.
210'-220'	Brown FeOx stained coarse grained quartz latite porphyry.
220'-300'	Same as 150-210' except pyrite cubes are not totally coated with black CuOx.

GILT EDGE PROJECT
Lawrence County, South Dakota

SUMMARY LOG
Rotary Drill Hole 79-GLE-171

Interval	Description
0'- 20'	Light brown mixed latite porphyry, quartzite and mica schist. Quartzite and schist are probably preCambrian.
20'- 50'	Light brown to gray mixed metamorphic and intrusive rock. Quartz with pyrite, less than 2%.
50'-100'	Gray quartz-mica schist (pE) with 2-3% pyrite both disseminated and in clots.
100'-160'	Black mixed amphibolite schist and mica schist. 1% very fine disseminated pyrite.
160'-300'	Gray quartz-mica (biotite) schist with 2-3% disseminated pyrite.

GILT EDGE PROJECT
Lawrence County, South Dakota

SUMMARY LOG
Rotary Drill Hole 79-GLE-172

Interval	Description
0'- 20'	Light brown quartz "eye" latite(?) porphyry. Abundant FeOx on fractures and rock is partially coated with light brown clay material.
20'-140'	Light red-brown clay altered latite with abundant FeOx staining of the clay. 80-90' originally contained 7-10% sulfides.
140'-180'	Light gray clay altered latite(?) porphyry with 1-3% disseminated pyrite.
180'-210'	Same as 20-140' only not totally oxidized.
210'-230'	Brown latite(?) and clay. Rock appears to have contained 2-5% sulfide before oxidation.
230'	Lost hole due to water.

GILT EDGE PROJECT
Lawrence County, South Dakota

SUMMARY LOG
Rotary Drill Hole 79-GLE-173

Interval	Description
0'- 40'	Light gray medium grained quartz latite with minor FeOx on some fractures. Rock appears silicified in part.
40'- 60'	Light gray mixed quartz-mica schist and intrusive rock biotite is bleached in part 1-2% pyrite primarily in intrusive rock.
60'-120'	Dark gray (pЄ) biotite-quartz schist with minor pyrite clots.
120'-180'	Dark green gray pЄ amphibolite schist with 1% disseminated pyrite.

GILT EDGE PROJECT
Lawrence County, South Dakota

SUMMARY LOG
Rotary Drill Hole 79-GLE-174

Interval	Description
0'- 30'	Light brown to tan moderately silicified trachyte porphyry with pink clay on some fractures. MnOx and FeOx on some fractures, 2% oxidized pyrite.
30'-120'	Light gray trachyte porphyry. Moderate to intense argillic alteration of the feldspars, weakly silicified. 1-3% pyrite content, pyrite coated in part with chalcocite.
120'-140'	Red-brown trachyte porphyry(?) intensely FeOx stained, 3-5% oxidized pyrite moderately silicified.
140'-230'	White argillic altered trachyte(?) with 1% disseminated pyrite (150-160' increased pyrite 2-3%). Feldspars totally clay altered.
230'-270'	Light gray moderately argillic altered trachyte, slightly silicified with 1-2% disseminated pyrite.

GILT EDGE PROJECT
Lawrence County, South Dakota

SUMMARY LOG
Rotary Drill Hole 79-GLE-175

Interval	Description
0'- 30'	Light yellow-brown FeOx stained medium grained quartz latite with 3-5% disseminated pyrite approximately 50% oxidized.
30'- 80'	Medium to coarse grained dark gray latite(?) with 4-7% disseminated pyrite, partly in clots. Some fragments contain pyrite coated with black CuOx.
80'-140'	Yellow-brown medium grained quartz latite with approximately 1% disseminated pyrite, partly oxidized.
140'-270'	Dark gray mica to amphibolite schist (p€) with 1-3% contained pyrite.

GILT EDGE PROJECT
Lawrence County, South Dakota

SUMMARY LOG
Rotary Drill Hole 79-GLE-176

Interval	Description
0'- 50'	Tan to light red-brown trachyte porphyry with abundant pink clay on fractures, 1-3% disseminated and oxidized pyrite. Feldspars are partially clay altered.
50'-140'	Red-brown trachyte porphyry, 2-5% oxidized pyrite (limonite casts). Minor MnOx on some fractures.
140'-190'	White trachyte porphyry with 2-5% disseminated pyrite (coated with chalcocite in part). Feldspars are moderately clay altered.
190'-250'	Brown partially to totally oxidized trachyte porphyry with jarosite on fractures. 2-5% oxidized pyrite (limonite casts). 1% unoxidized pyrite.

GILT EDGE PROJECT
Lawrence County, South Dakota

SUMMARY LOG
Rotary Drill Hole 79-GLE-177

Interval	Description
0'- 60'	Pink to light brown coarse grained quartz latite porphyry with 2-3% totally to partially altered pyrite. Some clay altered feldspar are stained pink.
60'-100'	Same as 0-60' more thoroughly oxidized.
100'-140'	Mixed quartz latite, metamorphic rock and quartz vein (?) material with 4-5% pyrite disseminated and in clots.
140'-190'	Brown totally oxidized quartz latite and quartzite (pЄ). Original pyrite less than 5%.
190'-240'	White highly clay altered trachyte (?) porphyry with 1% disseminated pyrite.
240'-250'	Same as 190-240', only partially oxidized.

GILT EDGE PROJECT
Lawrence County, South Dakota

SUMMARY LOG
Rotary Drill Hole 79-GLE-178

Interval	Description
0'- 40'	White to tan quartz latite with FeOx on fractures (FeOx primarily jarosite). Moderately silicified, rock contains 1-3% partly to totally oxidized pyrite.
40'-120'	Gray latite porphyry with 3-5% disseminated pyrite with more massive pyrite on fractures. Minor amounts of sphalerite and CuOx coating some pyrite grains.
120'-150'	Dark green to brown mica-biotite-quartz schist with 1% pyrrhotite and pyrite.
150'-200'	Mixed quartzite - coarse grained quartz rich intrusive rock and mica schist with 2-5% contained sulfides (primarily pyrite) slightly oxidized in some intervals.
200'-220'	Decreasing pЄ metamorphic and increasing silicified trachyte porphyry. Zone is approximately 50% oxidized and probably contained between 5-7% total sulfides originally.
220'-250'	Highly silicified trachyte(?) with 1-3% oxidized pyrite.

GILT EDGE PROJECT
Lawrence County, South Dakota

SUMMARY LOG
Rotary Drill Hole 79-GLE-179

Interval	Description
0'- 40'	Tan porphyritic latite with FeOx staining on fractures. 1% disseminated pyrite casts with trace amounts of unoxidized pyrite. Mostly jarosite on fractures.
40'- 70'	Gray latite with 3-5% disseminated pyrite, weakly silicified.
70'-150'	Dark gray latite with increasing secondary quartz and 5-7% pyrite, massive clots in part. Minor oxidized fragments.
150'-220'	Coarse grained dark gray latite with abundant quartz (secondary?) mixed with fragments of biotite schist.
220'-230'	Mixed dark gray latite(?) and quartz vein material. Fragments of pЄ brown biotite schist.
230'-250'	Dark brown to black pЄ biotite schist.

GILT EDGE PROJECT
Lawrence County, South Dakota

SUMMARY LOG
Rotary Drill Hole 79-GLE-180

Interval	Description
0'- 50'	Pink to red-brown latite porphyry with moderate to intense FeOx staining on fractures. Black tourmaline on a few fragments.
50'- 90'	Mixed (pЄ) mica schist, quartzite and intrusive fragments. Minor pЄ chert with disseminated pyrite in all rock types. Vein quartz probably associated with the pЄ schist.
90'-160'	Light brown mica schist and quartz mica schist (pЄ). Approximately 1% pyrite in the quartz.
160'-210'	Black amphibolite schist with 1% disseminated pyrite. Minor quartz in schist (amphibolite could be cummingtonite in part).
210'-220'	White trachyte (dike?) with 1-3% disseminated pyrite.
220'-250'	Mixed (pЄ) amphibolite schist and biotite schist with minor fragments of intrusive rock.

GILT EDGE PROJECT
Lawrence County, South Dakota

SUMMARY LOG
Rotary Drill Hole 79-GLE-181

Interval	Description
10'- 20'	Red-brown to pink clay altered trachyte porphyry with pink clay on fractures.
20'- 90'	Red-brown latite(?) porphyry and gossen material, evidence of 2-3% oxidized pyrite.
90'-170'	Gray latite porphyry with 2-5% disseminated pyrite. Moderate clay altered feldspars. Some pyrite grains are coated with CuOx (chalcocite).
170'-240'	Light gray to gray clay altered latite porphyry with 2-7% disseminated pyrite.
240'-250'	Black (pЄ?) amphibolite and mixed intrusive fragments.

GILT EDGE PROJECT
Lawrence County, South Dakota

SUMMARY LOG
Rotary Drill Hole 79-GLE-182

Interval	Description
0'- 50'	Red-brown FeOx stained clay altered quartz latite(?) with minor fragments of € quartzite, contains 3-5% oxidized pyrite.
50'- 90'	Mixed quartz latite and quartzite with 3-5% pyrite. Minor fragments of biotite schist.
90'-130'	Mixed quartz latite and p€ biotite schist oxidized in part with 1-2% pyrite.
130'-170'	Dark brown to black p€ biotite schist with minor quartz and trace disseminated pyrite.
170'-250'	Dark gray-brown biotite schist with quartz fragments and minor intrusive chips, generally oxidized.

GILT EDGE PROJECT
Lawrence County, South Dakota

SUMMARY LOG
Rotary Drill Hole 79-GLE-183

Interval	Description
0'- 40'	No recovery.
40'- 60'	Tan FeOx stained latite porphyry. Trace pyrite and pyrite casts. Moderately silicified.
60'-100'	Light gray latite(?) with 1-3% disseminated pyrite coated black in part.
100'-140'	Brown FeOx stained latite contains abundant jarosite on fractures, trace amounts of unoxidized pyrite with 1% oxidized pyrite.
140'-150'	Mixed oxidized and unoxidized latite - moderately silicified with 1-2% disseminated pyrite.
150'-200'	Light gray latite porphyry with 2-3% disseminated pyrite, moderately silicified. Pyrite coated in part with chalcocite(?).
200'-250'	Same as 150-200' with increased pyrite, 3-5%.

GILT EDGE PROJECT
Lawrence County, South Dakota

SUMMARY LOG
Rotary Drill Hole 79-GLE-184

Interval	Description
0'- 40'	Light brown mildly clay altered quartz latite(?) porphyry, FeOx stained. Rock contained 1-3% pyrite now totally oxidized.
40'	Hit water - lost hole.

GILT EDGE PROJECT
Lawrence County, South Dakota

SUMMARY LOG
Rotary Drill Hole 79-GLE-185

Interval	Description
0'- 10'	White clay altered latite(?) with minor FeOx staining on some fractures.
10'- 70'	Red-brown FeOx stained latite(?) with 1-3% pyrite casts, minor jarosite on some fractures.
70'-160'	Light gray latite porphyry, moderately silicified with 1-3% disseminated pyrite. Black coatings (chalcocite?) on some pyrite crystals.
160'-250'	Light gray latite moderately silicified with 2-5% disseminated pyrite. Most pyrite cubes coated with black (chalcocite?). Feldspars slightly clay altered.

GILT EDGE PROJECT
Lawrence County, South Dakota

SUMMARY LOG
Rotary Drill Hole 79-GLE-186

Interval	Description
0'- 40'	Brown FeOx stained latite (?) porphyry. Before oxidation, rock contained approximately 1% disseminated pyrite.
40'-250'	Light brown to white partially oxidized trachyte (?) porphyry with 2-5% pyrite both disseminated and in clots. Feldspars are partially clay altered.

GILT EDGE PROJECT
Lawrence County, South Dakota

SUMMARY LOG
Rotary Drill Hole 79-GLE-187

Interval	Description
0'- 30'	Red-brown FeOx stained coarse grained porphyritic quartz latite.
30'- 50'	Mixed fragments of quartz latite, quartzite, and biotite schist. FeOx staining on latite fractures.
50'-160'	Brown quartz biotite schist (p€). Quartz contains 1-5% pyrite.
160'-170'	Mixed quartzite and biotite schist with white quartz, 3-5% pyrite.
170'-250'	Same as 50-160' with increased pyrite in the quartz, 3-7%. Minor fragments of intrusive rock.

GILT EDGE PROJECT
Lawrence County, South Dakota

SUMMARY LOG
Rotary Drill Hole 79-GLE-188

Interval	Description
0'- 40'	Red-brown FeOx stained quartz latite. Minor jarosite on fractures. Contained 1-3% oxidized pyrite. Slightly clay altered.
40'- 80'	Mixed quartz latite and pЄ biotite schists with minor quartzite fragments. Latite contains 1-3% disseminated pyrite.
80'-140'	White porphyritic trachyte with clay altered feldspars partially oxidized with 1-2% disseminated pyrite, moderately silicified.
140'-170'	Brown to dark brown quartz biotite schist (pЄ). The quartz contains 1-3% pyrite.